R668.1 S67

BLUE BOOK

1949

for manufacturers and distributors of

SOAPS
INSECTICIDES
DISINFECTANTS
CHEMICAL SPECIALTIES
SANITARY SUPPLIES
POLISHES
CLEANERS

Issued Annually by the Publishers of

SOAP AND SANITARY CHEMICALS

NEW YORK


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DIMETHYL HYDROQUINONE
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HYDROXYCITRONELLAL
INDOLE
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METHYL ANTHRANILATE
METHYL "RHODIONE*" (Methyl Ionone)
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OCTYL SALICYLATE
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*Trade-Mark.

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Organic Chemicals Department
Aromatics Section
Wilmington 98, Delaware
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BLUE BOOK
1949

AN ANNUAL BUYERS GUIDE,
DIRECTORY AND REFERENCE
VOLUME FOR MANUFACTURERS
AND DISTRIBUTORS OF SOAPS,
INSECTICIDES, DISINFECTANTS,
POLISHES, CLEANERS AND
ALLIED CHEMICAL SPECIALTIES

Twenty-First Edition

ISSUED ANNUALLY BY

MacNair-Dorland Company

254 West 31st Street New York 1, N. Y.

JUN 18 '49
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Many manufacturers of soaps, insecticides and disinfectants know that this label is the mark of quality. They know, too, that Orbis is recognized as a dependable source for perfume compounds, fine domestic and imported essential oils, aromatic chemicals and gums—whole or powdered and insecticide concentrates.

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Oil Petitgrain
Oil Rosemary
Oil Sassafras
Oil Spearmint
Oil Thyme—Red
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Foreword

OUR purpose in bringing out the first edition of the SOAP BLUE BOOK twenty years ago was to make available to the purchasing departments of soap and sanitary chemical firms, in convenient and permanent form, dependable information on sources of supply for all the raw materials, machinery, containers, equipment, etc. which they buy. This still continues to be the prime purpose for publication of the BLUE BOOK. And we might add that we appreciate the help of our readers, and of suppliers as well, in making the listings as complete and accurate as possible.

If you are not listed, and should be, just let us know. We want our lists of suppliers to be complete and representative. If as a user of the book, you find that we are listing firms who are out of business, have moved or changed their names, or who perhaps do not supply the items under which they are listed, it will be very helpful to have you advise us. This is one of the best ways we have of keeping our listings accurate and up-to-date.

A word as to the listings of suppliers of finished products, such as soaps, floor waxes, polishes, etc. Under these headings we do not try to give complete lists of all manufacturers of such products. Rather it is our purpose to limit these listings to firms who specialize in selling through dealers and distributors. We do not list companies when we know that their prime concern is the sale of finished products direct to actual users.

In addition to its function as a buyers' guide, the SOAP BLUE BOOK also serves as an annual reference book for the soap and sanitary chemical industry. Included in the appendix is considerable valuable reference material, including specifications and official testing methods, figures on soap sales, oil and fat consumption data, etc. We find that many of the calls that come to our office for information could readily be answered simply by referring to your BLUE BOOK.

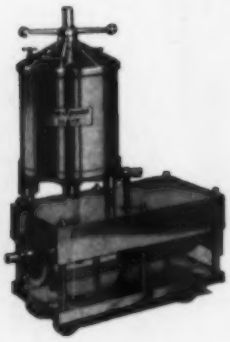
Familiarize yourself now with the type of information that is in your BLUE BOOK. Keep your copy in use. And don't forget to discard the 1948 edition,—which of course is now out of date.

May 1, 1949

THE PUBLISHERS.

ALSOP FILTERS, MIXERS & STAINLESS STEEL TANKS

for dependable, low-cost, time proven performance



"Sealed-Disc" Filters

Designed for all general batch or continuous filtration work, this compact, portable, positive action filter removes all dirt, sediment, impurities, etc. Operation is instant and uniform and is equally effective for clarifying, final polishing or for removing turbid matter. It is completely sealed, leak and drip proof and the splash proof stand protects the built-in pump and motor from splashed or spilled liquids. Sizes range from 1 g.p.m. to thousands of g.p.h. and available in Stainless Steel, Monel Metal, Nickel Plated Brass and Bronze, etc. Alsop Filter Discs, the neutral filter elements, are made in various grades for any degree of fineness of filtration your product may require.



Mixing and Storage Tanks

We manufacture a complete line of Stainless Steel Tanks. They are sturdily constructed of one piece welded 16 gauge stainless steel, surfaces are highly polished inside and out. The sloping bottom construction and side outlet nipple assures complete and fast draining and permits the use of short legs with unrestricted clearance under the tank, and low sides for ease in loading.

Our complete sanitary Mixing Units feature the Mixer permanently mounted above the tank and out of the way insuring protection for the motor and electrical connections from spilled or splashed liquids and from damage by hand trucks or other equipment. Stainless steel covers and mixer brackets can be supplied for all tanks. All Alsop Tanks are made in sizes of from five to two hundred and fifty gallons capacity.

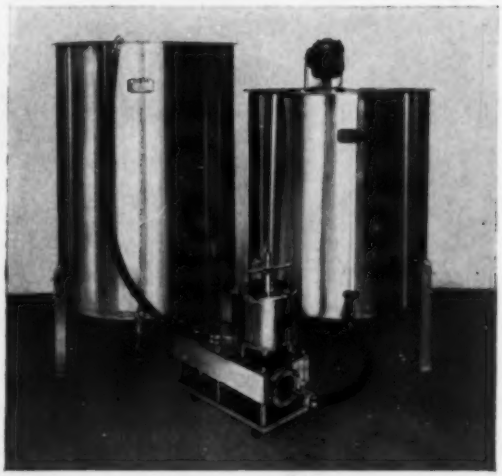
"Hy-Speed" Portable Mixers

We manufacture a complete line of Portable Mixers in a wide range of horse-powers, propeller combinations and speeds for mixing, blending and dissolving. These low-priced, sturdily constructed units, equipped with our easy-to-mount, quickly adjustable clamp can be mounted to any container. Shafts and propellers are available of suitable materials to handle all liquids.



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For over 25 years manufacturers of soaps, insecticides, disinfectants, cleaners and allied chemical specialties have relied on the consistent high standard of Alsop Liquid Processing Equipment and on the technical service of Alsop engineers to help maintain efficient and economical production.

The units shown here are only a few of a whole complete line of Filters, Mixers and Tanks developed to meet the varying demands of our many customers and our engineering staff is prepared to design special types which might be required to fit your specific job.

The diversity and completeness of our experience in Agitation and Filtration Engineering in all manufacturing and processing industries qualifies us to help you with your mixing and filtering operations. Call on us at any time, no obligation of course.

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ENGINEERING CORPORATION
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Our new catalogue illustrates and describes our full line of Stainless Steel Liquid Processing Equipment in complete detail. Write for your free copy today.

Buyers' Guide Section

LISTING SOURCES OF SUPPLY FOR RAW MATERIALS, MACHINERY AND EQUIPMENT BOUGHT BY MANUFACTURERS OF SOAPS AND SANITARY CHEMICALS.

●

Included in this section are the names of manufacturers of soaps and sanitary chemicals who sell private brand and bulk products to jobbers and distributors. It is not intended to list concerns who sell direct to consumers.

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for Soaps, Perfumes, Drugs, Pharmaceuticals, Plastics, Cosmetics, Denaturing, Insecticides, Fumigation and other purposes.

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Phenyl Ethyl Acetate
Ethyl Phenyl Acetate
Benzyl Acetate
Benzyl Alcohol
Benzyl Benzoate
Alpha Amyl Cinnamic Aldehyde
Acetophenone
Methyl Acetophenone
Benzophenone
Nerolin
Yara Yara

COAL TAR CHEMICALS

Cresylic Acid
Tar Acid Oil
High Boiling Tar Acids
Ortho-Cresol
Pyridine
Pyridine Bases

FUMIGANTS

Methyl Formate
Ethyl Formate

PHARMACEUTICALS and INTERMEDIATES

Cyanoacetamide
Cyanoacetic Acid
Ethyl Cyanoacetate
Methyl Cyanoacetate
Triethyl Orthoformate
Phenyl Acetic Acid
Phenyl Acetamide
Methyl Phenyl Acetate
Benzyl Cyanide
Phenobarbital

PLASTICS CHEMICALS

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Diethyl Phthalate
Dibutyl Phthalate
Dimethyl Phthalate
Triacetin
Triphenyl Phosphate
Special Plasticizers

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Aluminum Co. of America, Gulf Bldg., Pittsburgh, Pa.
Attapulgus Clay Co., 210 W. Washington Sq., Phila.
California Industrial Minerals Co., Friant, Calif.
Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Dicalite Co, 756 S. Broadway, Los Angeles, Calif.
Filtrol Corp., 634 S. Spring St., Los Angeles, Calif.
K. F. Griffiths Co., 110 E. 42nd St., N. Y.
Goris & Co., 8124 S. Hoyne Ave., Chicago
Harshaw Chemical Co, 1945 E. 97th St., Cleveland 6
Heckathorn & Co., Richmond, Calif.
Imperial Prods. Co., 1600 Fountain St., Phila.
Johns-Manville Corp., 22 E. 40th St., N. Y.
Monsanto Chem. Co., 1700 S. 2nd St., St. Louis
National Sawdust Co., 69 N. 6th St., Bklyn.
Natural Minerals Co., 108 W. 6th St., Los Angeles
Pacific Coast Pumice Co., Bishop, Calif.
Philadelphia Quartz Co., Public Ledger Bldg., Independence Sq., Phila. 6
Pumice Corp. of America, Grants, N. M.
Jas. H. Rhodes & Co., 157 W. Hubbard St., Chicago
Wm. R. Rogers, 72 Park St., Beverly, Mass.
L. A. Salomon & Bro., 216 Pearl St., N. Y.
F. E. Schundler & Co., Inc., 524 Railroad St., Joliet, Ill.
Tamms Silica Co., 229 N. La Salle St., Chicago
United Clay Mines Corp., 101 Oakland St., Trenton, N. J.
R. T. Vanderbilt Co., 230 Park Ave., N. Y.
Chas. A. Wagner Co., 813 Callowhill St., Phila.
Whittaker Clark & Daniels, 260 W. B'way, N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.

ACETONES (*see also Dealers*)

J. T. Baker Chem. Co., Phillipsburg, N. J.
Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Cliffs-Dow Chemical Co., Marquette, Mich.
Commercial Solvents Corp., 17 E. 42nd St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Enjay Co., Inc., 15 W. 51st St., N. Y. 19
Wm. S. Gray & Co., 342 Madison Av., N. Y.
Mallinckrodt Chemical Wks. St. Louis 7
Merck & Co., Rahway, N. J.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis 4
Publicker Industries, 1429 Walnut St., Phila. 2
Shell Chemical Corp., 100 Bush St., San Francisco
U. S. Industrial Chem., Inc., 60 E. 42nd St., N. Y.

ACIDS (Sulfuric, Muriatic, Nitric, Acetic, Etc.)

(*see also Dealers*)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Atlas Powder Co., Wilmington, Del.
J. T. Baker Chemical Co., Phillipsburg, N. J.
Blockson Chem. Co., Joliet, Ill.
Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Hercules Powder Co., Wilmington, Del.
Hooker Electrochemical Co., Niagara Falls, N. Y. (Muriatic)
Innis, Speiden & Co., 117 Liberty St., N. Y.
Koppers Co., Koppers Bldg., Pittsburgh, Pa.
A. R. Maas Chem. Co., 4570 Ardine St., So. Gate, Calif.
Mallinckrodt Chemical Wks., St. Louis 7
Merck & Co., Rahway, N. J.
Michigan Chem. Corp., St. Louis, Mich.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis
Niagara Alkali Co., 60 E. 42nd St., N. Y.
Oronite Chem. Co., 200 Bush St., San Francisco
Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila.
Publicker Industries, 1429 Walnut St., Phila. 2
Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Rumford Chem. Wks., Rumford, R. I.
Stauffer Chem. Co., 420 Lexington Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Victor Chemical Wks., 141 W. Jackson Blvd., Chicago
Welch, Holme & Clark Co., 439 West St., N. Y.

ACTIVATED CARBONS (see Bleaching Earths, Decolorizing Carbons)

ADHESIVES

Arabol Mfg. Co., 110 E. 42nd St., N. Y.
Armour Glue Wks., 1355 W. 31st St., Chicago
Bakelite Corp., 30 E. 42nd St., N. Y.
Carbide & Carbon Chem. Corp., 30 E. 42nd St., N. Y.
Casein Co. of America, Bainbridge, N. Y.
Darling & Co., 4201 S. Ashland, Chicago
Dennison Mfg. Co., Framingham, Mass.
Diamond Alkali Co., Standard Silicate Div., 535 Smithfield St., Pittsburgh
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Hercules Powder Co., Wilmington, Del.
Arnold Hoffman Co., Providence, R. I.
Koppers Co., Koppers Bldg., Pittsburgh, Pa.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis
National Adhesives Corp., 270 Madison Ave., N. Y.
National Starch Products, Inc., 270 Madison Ave., N. Y.
Philadelphia Quartz, Co., Public Ledger Bldg., Phila. 6
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Sanford Mfg. Co., W. Congress & Peoria St., Chicago
Satisfaction Supply Co., 508 W. Broadway, N. Y.
A. E. Staley Mfg Co., Decatur, Ill.
Swift & Co., Chicago
Warwick Wax Co., 10-10 44th Ave., L. I. C., 1, N Y.

AEROSOL DISPERSANTS

General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Kinetic Chemicals, Inc., Wilmington

AEROSOL FILLING

Connecticut & Chemical Research Corp., Railroad & Bostwick Aves., Bridgeport 2, Conn.
Continental Filling Corp., 123 N. Hazel St., Danville, Ill.
Industrial Management Corp., 458 S. Spring St., Los Angeles
Regal Chem. Corp., Bklyn. 22, N. Y.

AEROSOL INSECTICIDES (Containers and Dispensing Units)

Bridgeport Brass Co., Bridgeport 2, Conn.
Continental Can Co., 100 E. 42nd St., N. Y.
Edco Corp., Elkton Md.
Eston Chems. Inc., 3100 E. 26th St., Los Angeles
Industrial Management Corp., 458 S. Spring St., Los Angeles 13, Cal.
Regal Chemical Corp., Bklyn. 22, N. Y.
Salkover Metal Processing Co., Dixie Term. Bldg., Cincinnati
Sparklet Devices, Inc., 272 Badger Ave., Newark 8, N. J.
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
Virginia Smelting Co., W. Norfolk, Va.

AGITATORS

Allied Steel & Equipt. Co., Chester, N. J.
Alsop Engineering Corp., Milldale, Conn.
Amer. Machine & Foundry Co., 511—5th Ave., N. Y.
Beach-Russ Co., 50 Church St., N. Y.
Brill Equipment Co., 2401 Third Ave., N. Y.
Chemical & Process Machy. Corp., 146 Grand St., N. Y. 13
(Used)
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
Eastern Engineering Co., 45 Fox St., New Haven, Conn.
Ertel Engineering Corp., Kingston, N. Y.
Filter Paper Co., 2464 S. Michigan Ave., Chicago
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259 46th St., Brooklyn
Industrial Process Engineers, 8 Lister Ave., Newark 5
J. M. Lehmann Co., Lyndhurst, N. J.
Littleford Bros., 443 E. Pearl St., Cincinnati
Mixing Equipment Co., Inc., 1067 Garson Ave., Rochester, N. Y.

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Complete aerosol formulations for high or low pressure units. DDT and Pyrethrum synergized with Sesamin or Piperonyl Butoxide for greater killing power at lower cost.

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H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Read Machy. Co., York, Pa.
Scientific Filter Co., 1 Franklin Sq., N. Y.
Ernest Scott & Co., P. O. Box 82, Fall River, Mass.
Sowers Mfg. Co., 1296 Niagara St., Buffalo
Sprout Waldron & Co., Muncy, Pa.
Stein Equipment Corp., 90 West St., N. Y. C. (Used)
Struthers-Wells Titusville Corp., Warren, Pa.

AGRICULTURAL INSECTICIDES

Agicide Laboratories, 1717 Taylor Ave., Racine, Wis.
Aluminum Co. of America, Gulf Bldg., Pittsburgh
American Agricultural Chem. Co., 50 Church St., N. Y.
American-British Chem. Supplies, 180 Madison Ave., N. Y. 16
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Calif.
J. T. Baker Chem. Co., Phillipsburg, N. J.
California Spray Chemical Corp., Richmond, Calif.
Carbide & Carbon Chem. Corp., 30 E. 42nd St., N. Y.
Cenol Co., 4250 N. Pulaski Ave., Chicago
Chem. Mfg. & Dist. Co., Easton, Pa.
Chipman Chemical Co., Bound Brook, N. J.
Clarkson Co., 919 N. 9th St., Phila. 23
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eston Chems., Inc., 3100 E. 26th St., Los Angeles
Fairfield Labs., Inc., 417 Cleveland Ave., Plainfield N. J.
Filtrol Corp. 634 S. Spring St., Los Angeles
Geigy Co., 89 Barclay St., N. Y.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
James Good, Inc., 2116 E. Susquehanna Ave., Phila.
Griffin Chem. Co., 1000 16th St., San Francisco
Heckathorn & Co., Richmond, Calif.
Hercules Powder Co., Wilmington, Del.
Hooker Electrochemical Co., Niagara Falls, N. Y.
Julius Hyman & Co., Denver, Colo.
Industrial Management Corp., 458 S. Spring St., Los Angeles
Koppers Co., White Tar Div., Kearny, N. J.
Lorenz Chemical Co., 135 N. 32nd Ave., Omaha
McLaughlin, Gormley King Co., 1715—5th St., S. E., Minneapolis
Merck & Co., Rahway, N. J.
Michigan Chem. Corp., St. Louis, Mich.
Miller Products Co., 1932 S. W. Water Ave., Portland, Ore.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
S. B. Penick & Co., 50 Church St., N. Y.
Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila.
Richards Sales Corp., Warren & Morris Sts., Jersey City, N. J.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Shell Oil Co., 50 W. 50th St., N. Y. 20
Sherwin-Williams Co., Cleveland, Ohio
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Stauffer Chem. Co., 420 Lexington Ave., N . Y.
Thompson-Hayward Chem. Co., Kansas City, Mo.
Tobacco By-Products & Chem. Corp., Louisville, Ky.
James Varley & Sons, 1200 Switzer Ave., St. Louis
Westvaco Chem. Div., Food Mach. & Chem. Corp., 405 Lexington Ave., N. Y. 17
Virginia-Carolina Chemical Corp., Richmond, Va.
Whitmire Research Corp., 339 S. Vandeventer, St. Louis
Woburn Chemical Corp., Harrison, N. J.

AGRICULTURAL INSECTICIDE SPREADERS

Alrose Chem. Co., Box 1294, Providence, R. I.
Aluminum Ore. Co., Gulf Bldg., Pittsburgh
American-British Chem. Supplies, 180 Madison Ave., N. Y. 16
American Colloid Co., 363 W. Superior St., Chicago
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Attapulgus Clay Co., 210 W. Washington Sq., Phila.
Atlantic Refining Co., 260 South Broad St., Phila.
Atlas Powder Co., Wilmington 99, Del.
California Industrial Minerals Co., Friant, Calif.
Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Colloidal Products Corp., 2598 Taylor St., San Francisco
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
Dicalite Co., 120 Wall St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eastern Magnesia Talc Co., Burlington, Vt.
Emulsol Corp., 59 E. Madison St., Chicago
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Griffin Chem. Co., 1000 16th St., San Francisco
Kay-Fries Chemicals, Inc., 180 Madison Ave., N. Y.
Kearny Mfg. Co., Kearny, N. J.
Kessler Chem. Co., 7272 State Rd., Phila.
Miranol Chemical Co., 16 Melville Pl., Irvington, N. J.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis
Nopco Chemical Co., Harrison, N. J.
Protean Chemical Corp., 150 Nassau St., N. Y. 1
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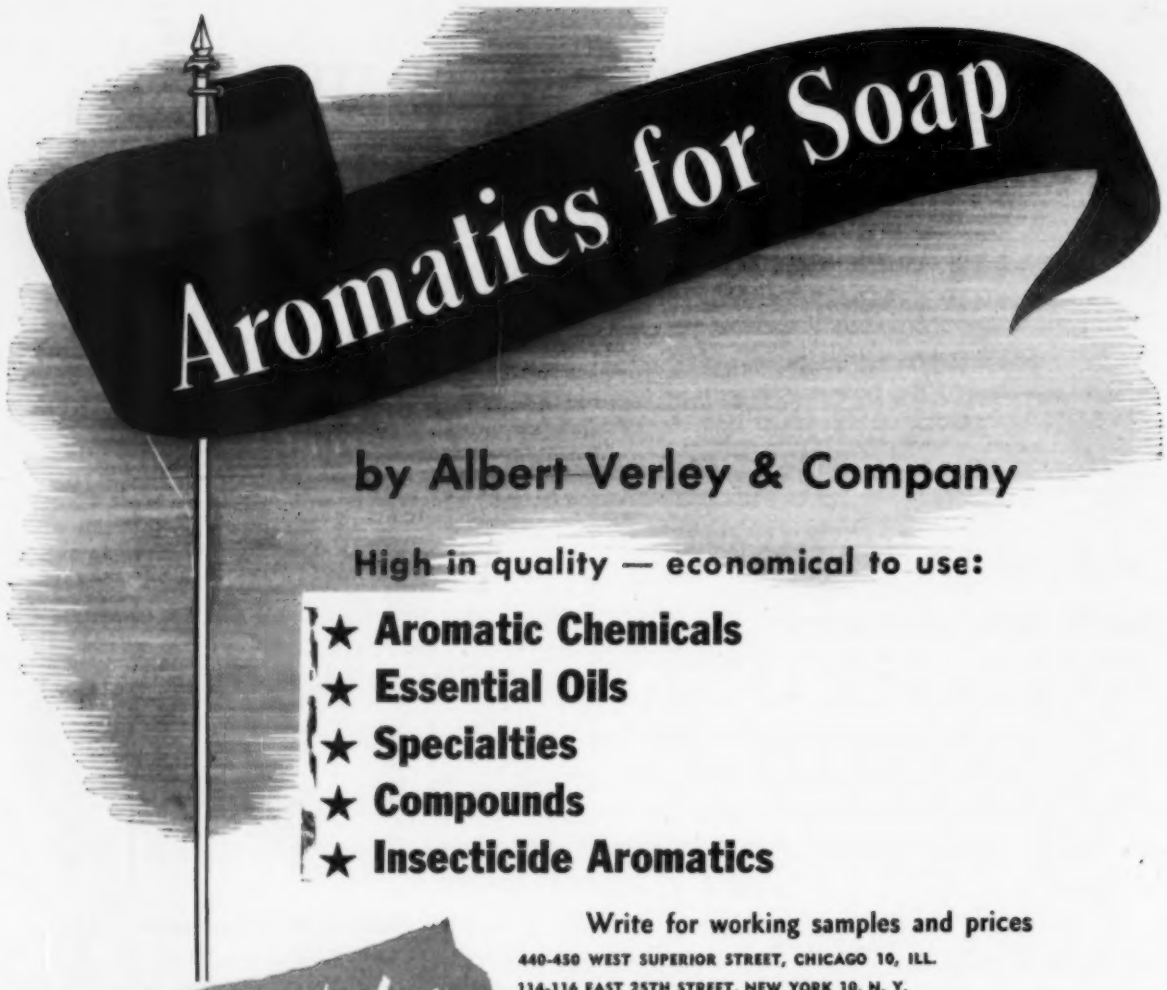


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Fezandie & Sperrle, 205 Fulton St., N. Y.
Foote Mineral Co., 1609 Summer St., Philadelphia
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mallinckrodt Chem. Wks., St. Louis 7
Merck & Co., Rahway, N. J.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
Westvaco Chem. Div., Food Machinery & Chem. Corp., 405 Lexington Ave., N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.
York Chem. Co., 23 Dean St., Brooklyn

BARREL LINERS (see Bags and Bag Liners)

BARRELS (Fibre)

Canister Co., Phillipsburg, N. J.
Carpenter Container Co., 147 — 41st St., Brooklyn
Champion Container Co., Water & Morris Sts., Phila.
Columbia Can Co., 315 Wyckoff Ave., Brooklyn
Container Co., Van Wert, O.
Diamond State Fibre Co., Bridgeport, Pa.
Inland Steel Container Co., 6532 S. Menard Ave., Chicago
Master Package Corp., Owen, Wisc.
Rogers Fibre Co., 210 Lincoln St., Boston
Seymour & Peck Co. (Plywood), 565 W. Washington St., Chicago
Spaulding Fibre Co., Rochester, N. H.

BARRELS (Steel)

American Cooperage Co., Mauer, N. J.
American Steel Package Co., Defiance, O.
Columbia Can Co., 315 Wyckoff Ave., Brooklyn
Draper Mfg. Co., Cleveland
Fetter Steel Barrel Corp., Buffalo
Globe Steel Barrel Co., Cleveland
Inland Steel-Container Co., 6532 S. Menard St., Chicago
Manion Steel Barrel Co., Rouseville, Pa.
National Steel Barrel Co., 3860 E. 91st St., Cleveland
Niles Steel Prod. Co., Niles, Ohio
Petroleum Iron Works Co., Sharon, Pa.
Pittsburgh Can Co., Pittsburgh
Pressed Steel Tank Co., Milwaukee, Wis.
Republic Steel Package Co., 7930 Jones Rd., Cleveland
Rheem Mfg. Co., 570 Lexington Ave., N. Y.
St. Louis Steel Package Co., St. Louis
John Trageser Steam Copper Works, Grand Ave., Maspeth, L. I., N. Y.
U. S. Steel Prods. Co., 30 Rockefeller Plaza, N. Y.
Vulcan Stamping & Mfg. Co., Bellwood, Ill.
Wackman Welded Ware Co., 7th & Victor Sts., St. Louis
Wheeling Corrugating Co., Wheeling, W. Va.

BARRELS (Wooden)

A. Z. Cooperage Co., 4550 Taflin St., Chicago
American Cooperage Co., Barber, N. J.
Bauer Cooperage Works, G. F., 1415 W. 31st St., Phila.
Boston Cooperage Co., South Boston, Mass.
Brooklyn Cooperage Co., 120 Wall St., New York
Burkhartsmeier Cooperage Co., 7240-54 S. Chicago Ave., Chicago
Chess & Wymond, Inc., Louisville
Eizner Company, John, 1050 W. Kinzie St., Chicago
Fessenden Companies, Inc., Townsend, Mass.
General Cooperage Co., Phila.
Johnson Co., Inc., T., 1046 W. 38th St., Chicago
Kimball-Tyler Co., Gough and Haven Sts., Baltimore
Kingsland Cooperage Co., Newark, N. J.
Klausner Cooperage Co., 5207 Grant Ave., Cleveland
Louisville Cooperage Co., Louisville
Milwaukee Cooperage Co., 3030 W. Auer Ave., Milwaukee
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago
Oker Sons Co., Cincinnati
Pioneer Cooperage Co., St. Louis
Pioneer Cooperage Co., Chicago
Redlich Mfg. Co., Chicago
Ritzweller Co., Chicago
St. Louis Cooperage Co., 101 Arsenal St., St. Louis
Siemon & Sons, 1750 N. Front St., Phila.
Steinmetz & Sons, 4638 Mitchell St., Detroit
Stolper Cooperage Co., 3232 W. Fondulac, Milwaukee
Verdi Brothers Cooperage Co., North Bergen, N. J.
T. & W. Wehmier, Latonia, Ky.

BARREL TILTERS

Economy Eng. Co., 2651 W. Van Buren St., Chicago

BASE OILS (see Petroleum Insecticide Base Oils)

BATH SALTS

Eagle Soap Corp., Huntington, Ind.
Gaylord Chemical Co., 701 Woodswether Rd., Kansas City, Mo.
Higley Chem. Co., Dubuque, Iowa
Hysan Prods. Co., 932 W. 38th Place, Chicago
Imperial Prods. Co., 1600 Fontain St., Phila.
Jansen Soap & Chemical Co., 324 Leavenworth St., San Francisco, Calif.
Lightfoot-Schultz Co., 1412 Park Ave., Hoboken, N. J.
M. & H. Laboratories, 2705 Archer Ave., Chicago
Miranol Chem. Co., P. O. Box 118, Milltown, N. J.
Port Huron Detergent Co., Port Huron, Mich.
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Skotch Prods. Corp., 2710 Detroit Ave., Cleveland



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Solvay Sales Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. (Unperfumed)
Trio Chem. Wks., 341 Scholes St., Brooklyn
Welch, Holme & Clark Co., 439 West St., N. Y.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

BAY RUM

P. R. Dreyer, Inc., 117½ W. 19th St., N. Y.
A. C. Drury & Co., 219 East North Water St., Chicago
Chas. L. Huisking & Co., 155 Varick St., N. Y.
Lanman & Kemp-Barclay Co., 135 Water St., N. Y.
McKesson & Robbins, 155 E. 44th St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Tombarel Products Corp., 12 E. 22nd St., N. Y.
Ungerer & Co., 161 Sixth Ave., N. Y.

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Acmeline, Inc., Traverse City, Mich.
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Electric Sprayit Co., 1415 Illinois Ave., Sheboygan, Wisc.
Feeny Mfg. Co., Muncie, Ind.
Getz Exterminators, Inc., 1130 Pine St., St. Louis
Thomas W. Houchin Corp., 87 Ferry St., Jersey City, N. J. (also Bulbs)
Lowell Mfg. Co., North Pier Terminal, Chicago
Scollay Sprinkler & Bulb Co., Box 46, Sta. F, Brooklyn
York Chem. Co., 23 Dean St., Brooklyn

BENTONITE

American Colloid Co., 363 W. Superior St., Chicago
American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N. Y.
Attapulgus Clay Co., 210 W. Washington Sq., Phila.
Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Filtrol Corp., 634 S. Spring St., Los Angeles
Hammill & Gillespie, 225 Broadway, N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Heckathorn & Co., Richmond, Calif.
Imperial Prods Co., 1600 Fontain St., Phila. 21
Innis, Speiden & Co., 117 Liberty St., N. Y.
Natura Minerals Co., 108 W. 6th St., Los Angeles
Owyhee Chemical Products Co., 300 W. Adams St., Chicago
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
L. A. Salomon & Bro., 216 Pearl St., N. Y.
F. E. Schundler & Co., Joliet, Ill.
Silica Products Co., 700 Baltimore Ave., Kansas City, Mo.
Tamms Silica Co., 228 N. La Salle St., Chicago
United Clay Mines Corp., 101 Oakland St., Trenton, N. J.
Virginia-Carolina Chem. Corp., Richmond, Va.
Chas. A. Wagner Co., 813 Callowhill St., Phila.
Welch Holme & Clark Co., 439 West St., N. Y.
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.
Wyodak Chemical Co., 4600 E. 71st St., Cleveland

BENZALDEHYDE

van Ameringen-Haebler, Inc., 315 Fourth Ave., N. Y.
Aromatic Products, Inc., 15 E. 30th St., N. Y.
Berje Products Co., 616 W. 44th St., N. Y. 18
Centflor Mfg. Co., 450 W. 31st St., N. Y. 1
Compagnie Parento, Inc., Croton-on-Hudson, N. Y.
Dodge & Olcott Inc., 180 Varick St., N. Y.
Dow Chemical Co., Midland, Mich.
P. R. Dreyer, Inc., 117½ W. 19th St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Felton Chemical Co., 603 Johnson Ave., Brooklyn
Florasynth Laboratories, 1513 Olmstead Ave., Bronx, N. Y.
Fritzsche Brothers, Inc., 76 Ninth Ave., N. Y.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Heyden Chem. Co., 393 Seventh Ave., N. Y. 1
Lautier Fils, 321 Fifth Ave., N. Y. 16
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y.
Merck & Co., Rahway, N. J.
Orbis Products Corp., 215 Pearl St., N. Y.
F. Ritter & Co., 4641 Hollywood Blvd., Los Angeles 27
Schimmel & Co., 601 W. 26th St., N. Y.
Tombarel Products Corp., 12 E. 22nd St., N. Y.
Ungerer & Co., 161 Sixth Ave., N. Y.
Van Dyk & Co., Belleville, N. J.
Albert Verley, Inc., 440 W. Superior St., Chicago

BENZENE (Benzol)

Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
S. H. Bell Co., 1407 Gulf Bldg., Chicago
Wm. Cooper & Nephews, 1909 Clifton Ave., Chicago
Hydrocarbon Products, 500 Fifth Ave., N. Y.
Koppers Co., Koppers Bldg., Pittsburgh, Pa.
Neville Co., Pittsburgh
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10

BENZENE HEXACHLORIDE

J. T. Baker Chem. Co., Phillipsburg, N. J.
Commercial Solvents Corp., 17 E. 42nd St., N. Y.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eston Chemicals, Inc., 3100 E. 26th St., Los Angeles
Ethyl Corp., 405 Lexington Ave., N. Y. 17
Geigy Co., Inc., 89 Barclay St., N. Y. 8
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Heckathorn & Co., Richmond, Calif.
Hooker Electrochemical Co., 4701 Buffalo Ave., Niagara Falls, N. Y.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis
Pennsylvania Salt Mfg. Co., 1000 Widener Bldg., Phila.
Pittsburgh Agr. Chem. Co., 350 Fifth Ave., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
Stauffer Chemical Co, 420 Lexington Ave., N. Y.
Westvaco Chem. Div., Food Mach. & Chem. Corp., 405 Lexington Ave., N. Y.

BERGAMOT OIL (see Essential Oils)

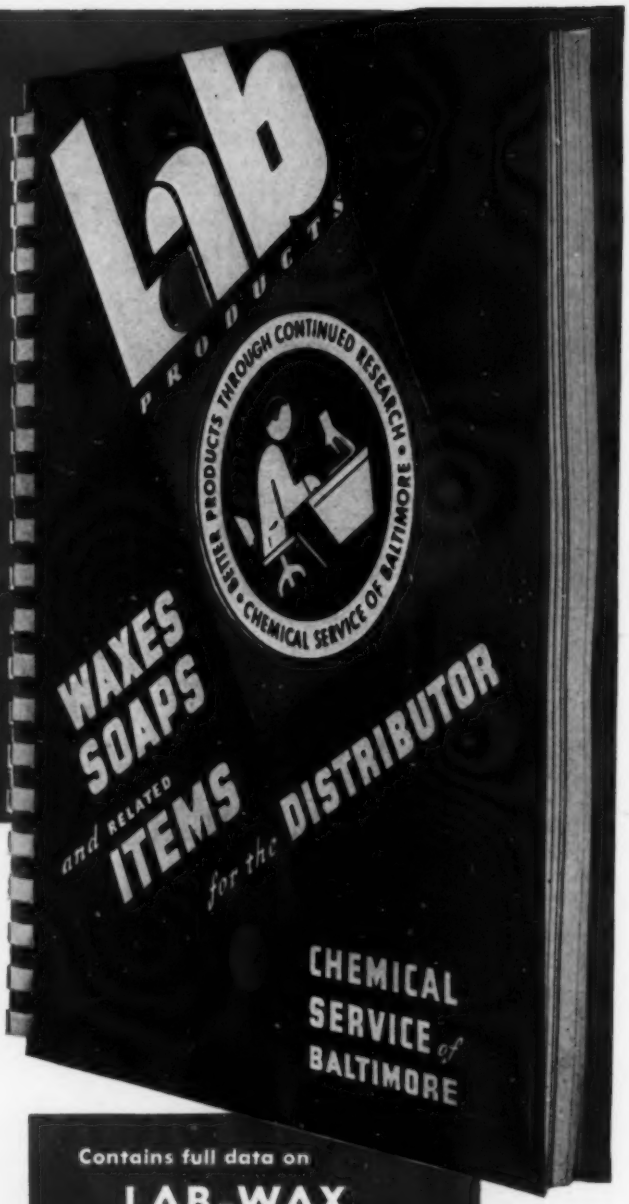
BICHROMATES

American-British Chem. Supplies, Inc., 180 Madison Ave., N. Y.
American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N. Y.
Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14
E. I. du Pont de Nemours & Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Mallinckrodt Chem. Wks., St. Louis 7
Merck & Co., Rahway, N. J.
Mutual Chem. Co. of America, 270 Madison Ave., N. Y.
Natural Prods. Refining Co., Jersey City, N. J.
Prior Chem. Corp., 420 Lexington Ave., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Sergeant Chemical Co., 7 Dey St., N. Y.
Jos. Turner & Co., Ridgefield, N. J.

BLEACHING AGENTS (Chlorine, Peroxide, Bichromates, etc.)

American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N. Y.
Buffalo Electro Chem. Co., Buffalo, N. Y.
Diamond Alkali Co., Union Commerce Bldg., Cleveland 14
Diversey Corp., 53 W. Jackson Blvd., Chicago
E. I. du Pont de Nemours & Co., Wilmington, Del.
Hercules Powder Co., Wilmington, Del.
Hooker Electrochemical Co., Niagara Falls, N. Y.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Lucidol Corp., 293 Larkin St., Buffalo
Mallinckrodt Chem. Co., St. Louis 7
Mathieson Chemical Corp., 60 E. 42nd St., N. Y.
Niagara Alkali Co., 60 E. 42nd St., N. Y.
Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila.
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Westvaco Chem. Div., Food Machinery & Chem. Corp., Chrysler Bldg., N. Y.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

BLEACHING EARTHS and CARBONS (see also Clays)

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Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Dicalite Co., 756 S. Broadway, Los Angeles, Cal.
Filtrol Corp., 634 S. Spring St., Los Angeles
J. M. Huber, Inc., 460 W. 34th St., N. Y.
Illinois Silica Co., Cairo, Ill.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Peerless Clay & Mineral Co., Pueblo, Colo.
L. A. Salomon & Bro., 216 Pearl St., N. Y.
Sinclair Refining Co., East Chicago, Ind.
Tamms Silica Co., 228 N. LaSalle St., Chicago
Chas. A. Wagner Co., 813 Callowhill St., Phila.
Westvaco Chem. Div., Food Machinery & Chem. Corp., 405 Lexington Ave., N. Y. 17
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.
Wyodak Chem. Co., 4600 E. 71st St., Cleveland

BLEACHING EQUIPMENT (for Oils), (see Deodorizing Equipment)

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Diversey Corp., 53 W. Jackson Blvd., Chicago
E. I. du Pont de Nemours & Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mathieson Chemical Corp., 60 E. 42nd St., N. Y.
Niagara Alkali Co., 60 E. 42nd St., N. Y.
Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
Sergeant Chem. Co., 7 Dey St., N. Y.
Stauffer Chem. Co., 420 Lexington Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y.

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BLOWERS for POWDER INSECTICIDES (see Bellows)

BLOWERS, ELECTRIC (see Sprayers, Electric)

BLUING (see Laundry Blue)

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Ampion Corp., 47-02 5th St., Long Island City, N. Y.
Baum's Castorine Co., Rome, N. Y.
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Churchill Mfg. Co., Galesburg, Ill.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Goulard & Olena, Inc., Skillman, N. J.
Hawk-Eye Compound Co., Blue Island, Ill.
Hercules Chem. Co., 332 Canal St., N. Y.
Higley Chem. Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Imperial Prods. Co., 1600 Fontain St., Phila. 21
Kamen Soap Prods. Co., Woolworth Bldg., N. Y.
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
J. F. Kerns Chem. Prods., 2239 S. Michigan Ave., Chicago
Mathieson Chemical Corp., 60 E. 42nd St., N. Y.
Midland Labs., Dubuque, Iowa
Peck's Products Co., 610 E. Clarence Ave., St. Louis 15
Permutit Co., 330 W. 42nd St., N. Y.
Theo. B. Robertson Prods. Co., 700 Division St., Chicago
Shield-All Co., 99-18 43rd St., Corona, N. Y.
Solshine Mfg. Co., 423 Second St., Fall River, Mass.
Trio Chem. Wks., 341 Scholes St., Brooklyn
Ultra Chem. Wks., P. O. Box 1536, Paterson, N. J.
U. S. Sanitary Specialties Corp., 1001 S. California Blvd., Chicago 12
Welch, Holme & Clark Co., 439 West St., N. Y.
Wyandotte Chem. Corp., Wyandotte, Mich.

BOIS de ROSE OIL (see Essential Oils)

BORAX (and Boric Acid)

American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N. Y.
American Potash & Chem. Corp., 122 E. 42nd St., N. Y. 17
Croton Chem. Corp., 114 Liberty St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mallinckrodt Chem. Wks., St. Louis 7
Pacific Coast Borax Co., 51 Madison Ave., N. Y.
Pittsburgh Plate Glass Co., Columbia Chem. Div., Pittsburgh
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Sergeant Chem. Co., 7 Dey St., N. Y.
Stauffer Chem. Co., 420 Lexington Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y.
Witco Chemical Co., 295 Madison Ave., N. J.

BORIC ACID (see Above)

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Capstan Glass Co., Connelsville, Pa.
Carr-Lowrey Glass Co., P. O. Box 356, Baltimore 3
Foster-Forbes Glass Co., Marion, Ind.
Graham Glass Co., Evansville, Ind.
Hagerty Bros. & Co., 10 Platt St., N. Y.
Hazel Atlas Glass Co., Wheeling, W. Va.
Kimble Glass Co., Vineland, N. J.
Maryland Glass Corp., Baltimore, Md.
Millville Bottling Wks., Millville, N. J.
Owens Illinois Glass Co., Toledo, O.
F. E. Reed Glass Co., 860 Maple St., Rochester, N. Y.
Root Glass Co., Terre Haute, Ind.
Ruth Glass Co., Conshohocken, Pa.
Tygart Valley Glass Co., Washington, Pa.
T. C. Wheaton Co., Millville, N. J.

BOTTLE FILLING MACHINERY (see Filling Machinery Bottles)

BOTTLE WASHERS (see Washing Machinery, Bottle)

BOX LINERS (see Bag Liners)

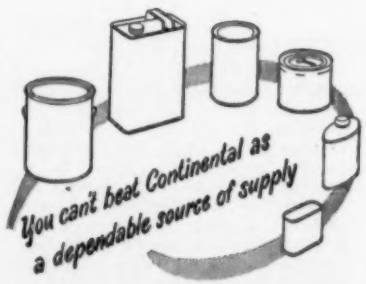
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Brooklyn Fibre Syndicate, Decatur St. & Irving Ave., Brooklyn
Cambridge Paper Box Co., 196 Broadway, Cambridge, Mass.
Consolidated Paper Co., Monroe, Mich.
Container Corp. of America, 111 W. Washington St., Chicago
Robert Gair Co., 155 E. 44th St., N. Y.
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Foxon Paper Co., 230 West Park St., Providence, R. I.
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Gardner-Richardson Co., Middletown, O.
R. R. Heywood, Inc., 26th St. & 9th Ave., N. Y.
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W. C. Ritchie & Co., 8801 S. Baltimore Ave., Chicago
Robert Paper Box Co., Montville, Conn.
Geo. Schmitt & Co., Grand & Florence Sts., Brooklyn
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Arnold Hoffman Co., Providence, R. I.
Chas. L. Huisking & Co., 155 Varick St., N. Y.
Lehigh Chemical & Export Co., 55 Liberty St., N. Y. 5
Leo Pasternak, Inc., 110 William St., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
George Uhe, Inc., 80 Eighth Ave., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y. 14

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Davidson Commission Co., 327 S. La Salle St., Chicago
John W. Hall, 327 S. La Salle St., Chicago
Otto A. C. Hagen Co., Public Ledger Bldg., Phila.
Hentz & Co., 60 Beaver St., N. Y.
Arnold Hoffman Co., Providence, R. I.
Chas. Hollingshead Co., Produce Exchange, N. Y.
Horner Commission Co., 15 William St., N. Y.
E. G. James Co., 316 S. La Salle St., Chicago
Kullman & Co., 339 Produce Exchange, N. Y.
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Miller & Co., 2401 Chestnut St., Philadelphia
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Welch, Holme & Clark Co., Inc., 439 West St. N. Y. 14
G. A. Wharry & Co., 95 Broad St., N. Y.
Wilbur-Ellis Co., 17 Battery Pl., N. Y.
Wilson Brokerage, Inc., Produce Exchange, N. Y.

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Amsterdam Broom Co., 81-95 Brookside Ave., Amsterdam, N. Y.
Detroit Quality Brush Mfg. Co., 5937 Michigan Ave., Detroit
Eagle Woodenware Co., Hamilton, O.
Flour City Brush Co., 301 Fifth Ave., Minneapolis
Illinois Brush Mfg. Co., 3316 Ogden Ave., Chicago
Kendallville Brush & Broom Co., Kendallville, Ind.
Tate Mfg. Co., 67 Sudbury St., Boston, Mass.
M. J. Toohey & Co., Fall River, Mass.

BRUSHES

American Standard Mfg. Co., 2509 S. Green St., Chicago
Amsterdam Broom Co., 81-95 Brookside Ave., Amsterdam, N. Y.
Detroit Quality Brush Mfg. Co., 5937 Michigan Ave., Detroit
Empire Brush Wks., Port Chester, N. Y.
Jos. O. Flatt & Co., 141 Cedar St., Reading, Pa.
Flour City Brush Co., 301 Fifth Ave., So., Minneapolis
J. I. Holcomb Co., Indianapolis
Illinois Duster & Brush Co., 1944 Webster Ave., Chicago
W. E. Kautenberg Co., P. O. Box 255, Freeport, Ill.
Kendallville Brush & Broom Co., Kendallville, Ind.
National Brush Co., Aurora, Ill.
Opie Brush Co., Kansas City, Mo.
Ox Fibre Brush Co., Frederick, Md.
Pacific Coast Brush Co., Los Angeles
Palmer Prods., Inc., Waukesha, Wisc.
Pioneer Mfg. Co., Cleveland, O.
Silver-Chamberlin Co., Clayton, N. J.
Sullivan Brush Co., Terre Haute, Ind.
Tate Mfg. Co., 67 Sudbury St., Boston, Mass.

CAJUPUT OIL (see Essential Oils)

CALCIUM HYPOCHLORITE

Clarkson Co., 919 W. 9th St., Phila. 23
Cowles Chemical Co., 7016 Euclid Ave., Cleveland 3
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Innis, Speiden & Co., 117 Liberty St., N. Y.
John Wiley Jones Co., Caledonia, N. Y.
Mathieson Chemical Corp., 60 E. 42nd St., N. Y.
Niagara Alkali Co., 60 E. 42nd St., N. Y.
Penn. Salt Mfg. Co., Widener Bldg., Phila.
Pittsburgh Plate Glass Co., Columbia Chemical Div., Pittsburgh
Jos. Turner & Co., Rirgefield, N. J.
Rosenthal Bercow, 25 E. 26th St., N. Y. 10
Universal Chlorinator Co., 3418 W. Pico Blvd., Los Angeles
Wyandotte Chemicals Corp., Wyandotte, Mich.

CALCIUM STEARATE (see Stearates)

CAMPHOR OIL (see Essential Oils)

CAN FILLING MACHINERY (see Filling Machinery, Cans)

CANDELILLA WAX (see Waxes)

CAN SPOUTS AND NOZZLES

Crown Cork Specialty Corp., Decatur, Ill.
George D. Ellis & Son, 309 N. 3rd St., Philadelphia
Seal Spout Corp., 363 Jelliff Ave., Newark 8, N. J. (for cartons)
Standard Containers, Inc., Montclair, N. J.

CANS (Fibre or Paper)

American Can Co., 230 Park Ave., N. Y.
Cambridge Box Co., 196 Broadway, Cambridge, Mass.
Canister Co., Phillipsburg, N. J.
Cin-Made Corp. 294 Eggleston Ave., Cincinnati
Cleveland Container Co., 10630 Berea Rd., Cleveland
Columbia Can Co., 315 Wyckoff Ave., Brooklyn
Continental Can Co., 100 E. 42nd St., N. Y.
Cross Paper Products Co., 2595 Third Ave., N. Y.
Fonda Container Co., 41 Park Row, N. Y.
Gardner-Richardson Co., Middletown, O.
Master Package Corp., Owen, Wis.

1949 UMI

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nearly all manufacturers to review their formulas frequently. In the past year quite a few of our customers have revised, refined, and improved their products substantially with Firmenich materials.

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Middlesex Paper Tube Co., 342 Madison Ave., N. Y.
Midwest Paper Container Co., 707 N. 3rd St., Minneapolis
National Paper Can Co., Cudahy, Wis.
Packard Container Corp., West New York, N. J.
R. C. Can Co., 121 Chambers St., St. Louis
W. C. Ritchie & Co., 8801 S. Baltimore Ave., Chicago
Sealright Co., 500 Fifth Ave., N. Y.
Sutherland Paper Co., Kalamazoo, Mich.

CANS (Sifter Top)

American Can Co., 230 Park Ave., N. Y.
Anchor Hocking Glass Corp., Lancaster, Ohio
Cambridge Paper Box Co., 196 Broadway, Cambridge, Mass.
Canister Co., Phillipsburg, N. J.
Cans, Inc., 3217 W. 47th Pl., Chicago
Cleveland Container Co., 10630 Berea Rd., Cleveland
Cin-Made Corp., 294 Eggleston Ave., Cincinnati
Continental Can Co., Inc., 100 E. 42nd St., N. Y.
Crown Can Co., Erie Ave. & H St., Phila.
Middlesex Paper Tube Co., 342 Madison Ave., N. Y.
National Can Co., 110 E. 42nd St., N. Y.
Owens-Illinois Can Co., Toledo, O.
Packard Container Corp., 5811 Park Ave., West New York, N. J.
R. C. Can Co., 121 Chambers St., St. Louis
W. C. Ritchie & Co., 8801 S. Baltimore Ave., Chicago
Sefton Fibre Can Co., 3275 Big Bend Blvd., St. Louis
Standard Container, Inc., Bloomfield, N. J.
Sutherland Paper Co., Kalamazoo, Mich.

CANS (Steel) (see Pails, Steel)

CANS (Tin)

American Can Co., 230 Park Ave., N. Y.
Anchor Hocking Glass Corp., Lancaster, Ohio
Central Can Co., 2415 W. 9th St., Chicago
Cans, Inc., 3217 W. 47th Pl., Chicago
J. L. Clark Mfg. Co., Rockford, Ill.
Columbia Can Co., 315 Wyckoff Ave., Brooklyn
Continental Can Co., Inc., 100 E. 42nd St., N. Y.
Crown Can Co., Erie Ave. & H St., Philadelphia
Eastern Can Co., Wythe Ave. & Keap St., Brooklyn 11
George D. Ellis & Sons, 309 N. 3rd St., Philadelphia
Fein's Tin Can Co., Bush Terminal, Brooklyn
General Can Co., 1603 S. Canal St., Chicago
Heekin Can Co., Cincinnati
National Can Co., 110 E. 42nd St., N. Y.
W. F. Robertson Steel & Iron Co., Springfield, O.
St. Louis Can Co., 904 S. 14th St., St. Louis
Standard Container, Inc., Bloomfield, N. J.
Vulcan Tin Can Co., Bellwood, Ill.

CAPPING MACHINERY

Alsop Engineering Corp., 100 High St., Milldale, Conn.
Anchor Hocking Glass Corp., Lancaster, Ohio
Chemical & Process Machy. Corp., 146 Grand St., N. Y. 13 (Used)
Consolidated Packaging Machinery Corp., 1400 West End Ave., Buffalo
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
Crown Cork & Seal Co., Baltimore, Md.
Filter Paper Co., 57 E. 24th St., Chicago
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Hornney & Co., 420 Lexington Ave., N. Y.
Karl Kiefer Machine Co., 919 Martin St., Cincinnati, Ohio
Ludcke Co., 41 N. Beacon St., Watertown, Mass.
M. R. M. Co., 191 Berry St., Brooklyn
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago
Pneumatic Scale Corp., North Quincy, Mass.
Scientific Filter Co., 2 Franklin Sq., N. Y. 10
Stein Equipment Co., 90 West St., N. Y. (Used)
Triangle Package Machy. Co., 6633 W. Diversey Blvd., Chicago 51
Tite-Cap Machine Co., 2 Franklin Sq., N. Y. 7
U. S. Bottlers Mchy. Co., 4015 N. Rockwell St., Chicago

CAPPING MATERIALS

Anchor Hocking Glass Corp., Lancaster, Ohio
Aridor Co., 3428 W. 48th Place, Chicago
Crown Cork Specialty Corp., Decatur, Ill.
Sylvania Industrial Corp., Chanin Bldg., N. Y.

CAPS (Molded)

Anchor Hocking Glass Corp., Lancaster, Ohio
Armstrong Cork Co., Lancaster, Pa.
General Plastics, Inc., N. Tonawanda, N. Y.
Owens-Illinois Glass Co., Toledo, Ohio
Plaskon Division, Libby-Owens-Ford Glass Co., 2112 Sylvan Ave., Toledo 6, Ohio
Resinox Corp., Terre Haute, Ind.
Toledo Synthetic Prods. Co., Toledo, Ohio

CAPS (Metal)

Aluminum Co. of America, Gulf Bldg., Pittsburgh
Anchor Hocking Glass Corp., Lancaster, Ohio
Aridor Co., 3428 W. 48th Place, Chicago
Armstrong Cork Co., Lancaster, Pa.
Cans, Inc., 3217 W. 47th Pl., Chicago
Closure Service Co., Toledo, Ohio
Continental Can Co., 100 E. 42nd St., N. Y.
Crown Cork & Seal Co., Eastern Ave. & Kresson St., Baltimore
George D. Ellis Sons, 309 N. 3rd St., Philadelphia
National Can Co., 110 E. 42nd St., N. Y.
National Seal Co., 14th Ave. & 37th St., Brooklyn
Owens-Illinois Glass Co., Toledo, Ohio
Phoenix Metal Cap Co., 2444 W. 16th St., Chicago

CARBOLIC ACID (see Phenol)

CARBONS for bleaching oils, glycerine, etc. (see Decolorizing Carbons)

CARBON BISULFIDE

(see also Dealers)

J. T. Baker Chem. Co., Phillipsburg, N. J.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Merck & Co., Rahway, N. J.
Penna. Salt Mfg. Co., 1000 Widener Bldg., Philadelphia
Stauffer Chem. Co., 420 Lexington Ave., N. Y.
Westvaco Chem. Div., Food Machy. & Chem. Corp., 405 Lexington Ave., N. Y.

CARBON TETRACHLORIDE

(see also Dealers)

J. T. Baker Chemical Co., Phillipsburg, N. J.
Brown Co., Portland, Me.
Diamond Alkali Corp., 300 Union Commerce Bldg., Cleveland 14
Dow Chemical Co., Midland, Mich.
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Niagara Smelting Corp., Niagara Falls, N. Y.
Pennsylvania Salt Mfg. Co., 1000 Widener Bldg., Phila.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Stauffer Chem. Co., 420 Lexington Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Virginia-Carolina Chem. Corp., Richmond, Va.
Welch, Holme & Clark Co., 439 West St., N. Y.
Westvaco Chem. Div., Food Mach. & Chem. Corp., 405 Lexington Ave., N. Y.

CARBOXY, METHYCELLULOSE (CMC)

E. I. du Pont de Nemours & Co., Wilmington, Del.
Hercules Powder Co., Wilmington, Del.
Wyandotte Chemical Corp., Wyandotte, Mich.

CARNAUBA WAX (see WAXES)

CARTON HANDLING SYSTEMS

J. L. Ferguson Co., Joliet, Ill.
Hornney & Co., 420 Lexington Ave., N. Y.
Pneumatic Scale Corp., Quincy, Mass.
Self-Lifting Piano Truck Co., Findlay, Ohio
Stephans-Adamson Mfg. Co., Aurora, Ill.
Weigh Right Automatic Scale Co., Joliet, Ill.

CARTON LINING MACHINES (see Lining Machinery)

CARTON SEALING MACHINERY (see Sealing Machinery)

CARTONING MACHINERY

Allied Steel & Equipment Co., Chester, N. J.
Chemical & Process Machy. Corp., 146 Grand St., N. Y. 13 (Used)
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
J. L. Ferguson Co., Joliet, Ill.
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Hornney & Co., 420 Lexington Ave., N. Y.
Johnson Automatic Sealer Co., Battle Creek, Mich.
R. A. Jones & Co., Cincinnati, Ohio
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago
Pneumatic Scale Corp., North Quincy, Mass.
F. B. Redington Co., 112 S. Sangamon St., Chicago
A. H. Ross & Co., P. O. Box 998, Dayton, O.
Stein Equipment Corp., 90 West St., N. Y. (Used)
Stokes & Smith Co., 4915 Summerdale Ave., Phila.
Triangle Package Machinery Co., 6633 W. Diversey Blvd., Chicago 51
Weigh Right Automatic Scale Co., Joliet, Ill.

CARTONS (Display and Knock Down)

Alderman-Fairchild Co., Rochester, N. Y.
Consolidated Paper Co., Monroe, Mich.
Robert Gair Co., 155 E. 44th St., N. Y.
Gardner-Richardson Co., Middletown, Ohio
Nevins-Church Co., 250 Park Ave., N. Y.
New England Card & Paper Co., Springfield, Mass.
Owens-Illinois Glass Co., Toledo, O.
Pictorial Package Co., Aurora, Ill.
Randolph Box & Label Co., 843 W. VanBuren St., Chicago
W. C. Ritchie & Co., 8855 S. Baltimore Ave., Chicago
Robertson Paper Box Co., Inc., Montville, Conn.
George Schmitt & Co., Grand & Florence Sts., Brooklyn
Sutherland Paper Co., Kalamazoo, Mich.
U. S. Printing & Lithographing Co., Cincinnati, Ohio
Universal Folding Box Co., Monroe & 13th St., Hoboken, N. J.

CASE SEALING MACHINERY (see Sealing Machinery)

CASEIN

American-British Chem. Supplies, Inc., 180 Madison Ave., N. Y.
American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N. Y.
Borden Co., 350 Madison Ave., N. Y.
Wm. Diehl & Co., 336 W. 42nd St., N. Y. 18
E. I. du Pont de Nemours & Co., Wilmington, Del.
Enco Chem. Corp., 441 Lexington Ave., N. Y.
Hercules Powder Co., Wilmington, Del.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Land-o-Lakes Creameries, Minneapolis
National Casein Co., 603 W. 80th St., Chicago
Sergeant Chem. Co., 7 Dey St., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.

CASES (Fibre) (see Boxes, Cans)

CASES (Corrugated) (see Boxes)

CASSIA OIL (see Essential Oils)

CASTILE SOAP, BAR

Armour Soap Wks., 1355 W. 31st St., Chicago
Conti Products Corp., 43 Clinton Ave., Brooklyn
Haskins Bros. & Co., Omaha
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Kranich Soap Co., 54 Richards St., Brooklyn
Lockwood-Brackett Co., Waltham Station, Boston
Los Angeles Soap Co., Los Angeles, Calif.
Newell Gutradt Co., 350 Fremont St., San Francisco
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Co., Ivorydale, O.
Sanitary Soap Co., 104 Railroad Ave., Paterson
Schmidt Soap Products, 236 W. North Ave., Chicago
Solshine Mfg. Co., 412 2nd St. Fall River, Mass.
John T. Stanley Co., 642 W. 30th St., N. Y.
Superior Soap Corp., 121 Nostrand Ave., Brooklyn
Swift & Co., Chicago
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

CASTILE SOAP, LIQUID

Ampion Corp., 47-02 5th St., Long Island City, N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
Armour & Co., 1355 W. 31st St., Chicago 9
Baums Castorine Co., 200 Matthew St., Rome, N. Y.
Chem. Mfg. & Dist. Co., Easton, Pa.
Chemical Service Co. of Baltimore, Howard & West Sts., Baltimore 30
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chemical Co., 62 William St., N. Y.
Davies-Young Soap Co., Dayton, O.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., Kensington, Philadelphia
Haag Laboratories, Inc., 140th & Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Philadelphia
Higley Chem. Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
Hunt Mfg. Co., Lisbon Rd., Cleveland
Hysan Prods. Co., 932 W. 38th Place, Chicago
J. F. Kerns Chem. Prods., 2239 S. Michigan Ave., Chicago
Kranich Soap Co., 54 Richards St., Brooklyn
Lewis Soap & Chem. Co., 2210 San Pablo Ave., Oakland, Calif.
Los Angeles Soap Co., 617 E. 1st St., Los Angeles
Manhattan Kreole Prods., 172 N. 10th St., Brooklyn
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Schmidt Soap Products, 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Tech. Soap Mfg. Co., 125 W. 46th Pl., Chicago
Trio Chem. Wks., 341 Scholes St., Brooklyn
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Superior Soap Corp., 121 Nostrand Ave., Brooklyn
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
Uncle Sam Chem. Co., 575 W. 131st St., N. Y.
G. H. Wood & Co., Toronto, Ont., Canada
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

CASTOR OIL

(see also Dealers)

Archer-Daniels-Midland Co., Minneapolis
Baker Castor Oil Co., 120 Broadway, N. Y.
Balfour, Guthrie & Co., 67 Wall St., N. Y.
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Otto A. C. Hagen Co., 929 Public Ledger Bldg., Phila.
Spencer Kellogg & Sons, Buffalo, N. Y.
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco
J. H. Redding, Inc., 177 Battery Place, N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Arthur C. Trask Co., 4103 S. La Salle St., Chicago
Welch, Holme & Clark Co., 439 West St., N. Y.
G. A. Wharry & Co., 95 Broad St., N. Y. 4

CATALYSTS

Aluminum Co. of America, Gulf Bldg., Pittsburgh
Attapulgus Clay Co., 210 W. Washington Sq., Phila.
J. T. Baker Chem. Co., Phillipsburg, N. J.
Filtrol Corp., 634 So. Spring St., Los Angeles
Carbide & Carbon Chem. Corp., 30 E. 42nd St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chem. Co., 1945 E. 97th St., Cleveland 6
Hooker Electrochemical Co., Niagara Falls, N. Y.
Johns-Manville Corp., 22 E. 40th St., N. Y.
Oronite Chem. Co., 200 Bush St., San Francisco
Rufert Chem. Co., 420 Lexington Ave., N. Y.
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chicago

CATTLE DIPS AND SPRAYS

(see also Sheep Dips)

An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Cal.
Ampion Corp., 47-02 5th St., Long Island City, N. Y.
Baird & McGuire, Inc., Holbrook, Mass.
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
California Spray-Chemical Corp., Richmond, Calif.
Cary Mfg. Co., 4917 E. Michigan St., Indianapolis
Chemical Compounding Corp., 262 Huron St., Brooklyn
Chemical Mfg. & Dist. Co., Easton, Pa.
Chem. Service Co. of Balto, Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Chipman Chem. Co., Bound Brook, N. J.
Clifton Chemical Co., 62 William St., N. Y.
Corn King Co., Cedar Rapids, Ia.
Davies-Young Soap Co., Dayton, O.
E. I. du Pont de Nemours & Co., Wilmington, Dela.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Co., 89 Barclay St., N. Y.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
James Good, Inc., 2116 E. Susquehanna Ave., Phila.
Goulard & Olena, Skillman, N. J.
Haag Laboratories, Inc., Blue Island, Ill.
Harrison Oil Co., 5110 N. 35th St., Milwaukee
Heckathorn & Co., Richmond, Calif.
Higley Chem. Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
James Huggins & Son, 239 Medford St., Malden, Mass.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Hunt Mfg. Co., Lisbon Rd., Cleveland
Imperial Prods. Co., 1600 Fontain St., Phila. 21
Kemico Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Ketoid Chem. Co., 339 S. Van Deventer, St. Louis
Koppers Co., White Tar Div., Kearny, N. J.
Lakeland Labs., 625 15th Ave., South, Minneapolis
Lorenz Chem. Co., 135 N. 32nd Ave., Omaha
McLaughlin, Gormley, King Co., Minneapolis, Minn.
Michigan Chem. Corp., St. Louis, Mich.
Nopco Chemical Co., Harrison, N. J.
North Coast Soap & Chem. Wks., Seattle, Wash.
Peck's Prod. Co., 610 E. Clarence Ave., St. Louis
Penna. Salt Mfg. Co., Widener Bldg., Phila.
Rex Research Corp., Toledo
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
St. Lawrence Chem. Co., Ogdensburg, N. Y.
Schaeffer Mfg. Co., 102 Barton St., St. Louis
Shell Oil Co., 50 W. 50 St., N. Y. 20
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ohio), Midland Bldg., Cleveland
Stauffer Chemical Co., 420 Lexington Ave., N. Y.
Texas Soap Mfg. Corp., 4905 Calhoun Road, Houston
Texol Chem. Wks., 75 Ward St., Worcester, Mass.
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City, Mo.
Tobacco By-Products & Chem. Corp., Louisville, Ky.
Trio Chem. Wks., 341 Scholes St., Brooklyn 6
Uncle Sam Chem. Co., 575 W. 131st St., N. Y.
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
Universal Chem. Corp., Akron, O.
James Varley & Sons, 1200 Switzer Ave., St. Louis
Velsicol Corp., 120 E. Pearson St., Chicago
Victory Chem. Co., 148 Fairmount Ave., Phila.
Warren Chemical Prods. Co., 1138 Main Ave. SW, Warren, O.
T. F. Washburn Co., 2244 Elston Ave., Chicago
Robert C. White Co., Chestnut Hill, Phila.
Whitmire Res. Labs., 339 S. Vandeventer, St. Louis

CATTLE SPRAY BASE (see Petroleum Bases)

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CAUSTIC POTASH (see Potash, Caustic)

CAUSTIC SODA

(see also Dealers)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Belle Alkali Co., Belle, W. Va.
Brown Company, Portland, Me.
Champion Fibre Co., Canton, N. C.
Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Hooker Electrochemical Co., Niagara Falls, N. Y.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Kimberley-Clark Paper Co., Neenah, Wis.
Mathieson Chemical Corp., 60 E. 42nd St., N. Y.
Merck & Co., Rahway, N. J.
Michigan Electrochemical Co., Menominee, Mich.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis 4
Niagara Alkali Co., 60 E. 42nd St., N. Y.
Niagara Smelting Corp., Niagara Falls, N. Y.
Oxford Paper Co., White Mountains, N. H.
Pennsylvania Salt Mfg. Co., Widener Bldg., Phila.
Pittsburgh Plate Glass Co., Columbia Chemical Div., 5th & Bellefield, Pittsburgh 13
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Solvay Sales Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Southern Alkali Corp., Corpus Christi, Tex.
Stauffer Chem. Co., 420 Lexington Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Virginia-Carolina Chem. Corp., Richmond, Va.
Westvaco Chem. Div., Food Mach. & Chem. Corp., 405 Lexington Ave., N. Y.
Welch, Holme & Clark, 439 West St., N. Y.
Wyandotte Chemicals Corp., Wyandotte, Mich.

CEDAR LEAF OIL (see Essential Oils)

CEDARWOOD OIL (see Essential Oils)

CENTRIFUGALS (special type for continuous process manufacture of neat soap)

Sharples Corp., Philadelphia 40

CERESIN WAX (see Waxes)

CHALK (Calcium Carbonate)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
H. J. Baker & Bro., 271 Madison Ave., N. Y.
Binney & Smith Co., 41 E. 42nd St., N. Y.
Charles B. Chrystal Co., 53 Park Pl., N. Y.
Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14
E. I. du Pont de Nemours & Co., Wilmington, Del.
Fezandie & Sperrle, 205 Fulton St., N. Y.
Goris & Co., 8124 S. Hoyne Ave., Chicago
K. F. Griffiths Co., 110 E. 42nd St., N. Y.
Hammill & Gillespie, 225 Broadway, N. Y.
Charles Hardy, Inc., 420 Lexington Ave., N. Y.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
James H. Rhodes & Co., 157 W. Hubbard St., Chicago
Rosenthal Bercow, 25 E. 26 St., N. Y. 10
L. A. Salomon & Bro., 216 Pearl St., N. Y.
Tamms Silica Co., 228 N. La Salle St., Chicago
Charles A. Wagner Co., 813 Callowhill St., Phila.
Whittaker, Clark & Daniels, Inc., 260 W. Broadway, New York
Witco Chemical Co., 295 Madison Ave., N. Y.
Wyandotte Chemicals Corp., Wyandotte, Mich.

CHAMOIS

Addison Sponge Co., 118 E. Court St., Cincinnati
Allied Industrial Prods. Co., 620 N. Michigan St., Chicago
Amer. Sponge & Chamois Co., 47 Ann St., N. Y.
Atlas Sponge Co., 291 Church St., N. Y.
Churchill Mfg. Co., Galesburg, Ill.
Great Eastern Sponge & Chamois Co., 833 N. Patt. Pk. Ave., Baltimore
Jos. Neihaus Co., 341 W. 4th St., Cincinnati
James H. Rhodes & Co., 157 W. Hubbard St., Chicago
Schroeder & Tremayne, 500 N. Comml. St., St. Louis

CHEMICALS, LOCAL DEALERS (see Dealers, Chemicals)

CHEMISTS, CONSULTING, (See Consultants, See Laboratories, Testing)

CHILLING ROLLS

Chemical & Processing Machy. Corp., 146 Grand St., N. Y. 13 (Used)
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
First Machy. Corp., 157 Hudson St., N. Y. (Used)
William Garrigue & Co., 9 S. Clinton St., Chicago
Houchin Machy. Co., Hawthorne, N. J.
Huber Machine Co., 259—46th St., Brooklyn
J. M. Lehmann Co., Lyndhurst, N. J.
Lukens Steel Co., Coatesville, Pa.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Proctor & Schwartz, 7th St. & Tabor Rd., Philadelphia
C. G. Sargent's Sons Corp., Graniteville, Mass.
Stein Equipment Co., 90 West St., N. Y. (Used)
F. J. Stokes Machine Co., 5974 E. Tabor Rd., Phila.
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chicago

CHIPPERS (see Soap Machinery)

CHIP SOAPS (including Flakes)

Aid Soap Mfg. Co., 1962 Enoch St., Pittsburgh, Pa.
American Soap & Washoline Co., Cohoes, N. Y.
Armour Soap Co., 1355 W. 31st St., Chicago
Beach Soap Co., Lawrence, Mass.
Chem. Mfg. & Dist. Co., Easton, Pa.
Chicago Sanitary Products Co., 3100 S. Throop St., Chicago
Colgate-Palmolive-Peet Co., Jersey City, N. J.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Du Bois Soap Co., Cincinnati, Ohio
J. Eavenson & Sons, Camden, N. J.
Haskins Bros. & Co., Omaha
Hewitt Soap Co., Dayton, Ohio
R. M. Hollingshead Corp., Camden, N. J.
Los Angeles Soap Co., Los Angeles, Calif.
Geo. E. Marsh Co., 200 Broadway, Cambridge, Mass.
National Milling & Chem. Co., Manayunk, Phila.
Nopco Chemical Co., Harrison, N. J.
National Soap Co., 357 South 25th St., Tacoma, Wash.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Co., Cincinnati
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Schmidt Soap Products, 236 W. North Ave., Chicago, Ill.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Warren Soap Mfg. Co., 51 Warren St., Cambridge, Mass.
M. Werk Co., Cincinnati
Chas. W. Young & Co., 1247 N. 26th St., Phila.

CHLORDANE

Julius Hyman & Co., Denver, Colo.
Velsicol Corp., 330 E. Grand Ave., Chicago

CHLORDANE FORMULATIONS

Dow Chemical Co., Midland, Mich.
General Chemical Division, 40 Rector St., N. Y.
Heckathorn & Co., Richmond, Calif.
S. B. Penick & Co., 50 Church St., New York
Pittsburgh Agr. Chem. Co., 350 Fifth Ave., New York
John Powell & Co., 1 Park Ave., New York
R. J. Prentiss & Co., 110 William St., New York
Stauffer Chemical Co., 3200 E. 26th St., Los Angeles, 23

COLUMBIA CHEMICALS for soap making special mixtures repacking sanitation

Caustic Soda

Liquid	50% and 73% NaOH
Solid	76% Na_2O
Flake	76% Na_2O, Fine and Medium
Ground and Powdered	76% Na_2O

Columbia Caustic Soda is especially desirable for the manufacture of soap because of its freedom from impurities and metallic contamination. Liquid grades are shipped in special tank cars which first made practical the shipment of 73% Caustic Liquor in its purest form. Insulation effectively prevents crystallization and the patented lining prevents metallic contamination in transit.

Other grades test 98-100% Sodium Hydroxide (NaOH), equivalent to 76% Na_2O. Flake Caustic Soda is prepared in two grades of fine and medium sized flakes, free of dust. The finer grade is especially suitable for repacking for household use, as are the Ground and Powdered grades.

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The original Columbia chemical. Nearly a half-century's experience in the manufacture of this essential chemical for soap makers has enabled the development of techniques and controls that assure uniform density and regularity of physical form and purity.

Pittchlor

A high-test calcium hypochlorite containing 70% available chlorine. Granular and free-flowing, in 3¾ lb. cans, 5 lb. resealable cans, 130 lb. drums.

Pittcide

A calcium hypochlorite containing 50% available chlorine. Packed in 1¾ lb. bottles, 12 to the case.

Orthodichlorbenzene

Columbia Orthodichlorbenzene is a clear, colorless to slightly yellow liquid. Supplied in tank cars (8,000 gallons) and in drums (55 gallons).

Paradichlorbenzene

Columbia Paradichlorbenzene sublimes readily leaving no residue, is soluble in most organic solvents but is insoluble in water. Available in seven mesh sizes to meet the needs of the soap industry in the manufacture of sanitary specialties and deodorants. Shipped in fiber drums, 200, 100, 50 and 25 lbs. net.

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COLUMBIA CLEANER AND CLEANSER is a specially prepared product for general use in all hand cleaning operations. A white powder containing no harmful inactive ingredients, it dissolves rapidly and completely in water. COLUMBIA PHOSFLAKE is a uniform blend of Caustic Soda and Tri Sodium Phosphate, prepared in convenient flake form. Especially adapted to machine bottle washing—quick acting, easy to handle (no dust particles to irritate the skin and throat of the operator), superior in sterilizing and rinsing properties.

Modified Sodas

Mixtures of Sodium Carbonate and Sodium Bicarbonate. Especially useful in cleansing operations requiring a mild alkaline detergent-aid. Manufactured in three grades—No. 100, No. 200 and No. 300—with different degrees of alkalinity.

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Columbia's Technical Service is available for developing the most advantageous uses of these or other Columbia products in your processes. Pittsburgh Plate Glass Company, Columbia Chemical Division, Fifth at Bellefield, Pittsburgh 13, Pa.

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CHLORDANE & FORMULATIONS (Contd.)

Thompson-Hayward Chem. Co., Kansas City, Mo.
Uncle Sam Chem. Co., 575 W. 131st St., N. Y. 27

CHLORIDE OF LIME (see Bleaching Powder)

CHLORINE

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14
E. I. du Pont de Nemours & Co., Wilmington, Del.
Hercules Powder Co., Wilmington, Del.
Hooker Electrochemical Co., Niagara Falls, N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
John Wiley Jones Co., Caledonia, N. Y.
Mathieson Chemical Co., 60 E. 42nd St., N. Y.
Monsanto Chemical Corp., 1700 S. 2nd St., St. Louis
Niagara Alkali Co., 60 E. 42nd St., N. Y.
Pennsylvania Salt Mfg. Co., Widener Bldg., Phila.
Pittsburgh Plate Glass Co., Columbia Chemical Div., 5th & Bellefield, Pittsburgh 13
Solvay Sales Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Stauffer Chem. Co., 420 Lexington Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Universal Chlorinator Co., 3418 W. Pico Blvd., Los Angeles
Virginia-Carolina Chem. Corp., Richmond 5, Va.
Westvaco Chem. Div., Food Mach. & Chem. Corp., 405 Lexington Ave., N. Y.
Wyandotte Chemicals Corp., Wyandotte, Mich.

CHLORINE DIOXIDE

Mathieson Chemical Corp., 60 E. 42nd St., N. Y. 17

CHLORINE DISINFECTANTS (see Disinfectants)

CHLOROFORM

J. T. Baker Chem. Co., Phillipsburg, N. J.
Brown Company, Portland, Me.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mallinckrodt Chemical Works, St. Louis, Mo.
Merck & Co., Rahway, N. J.
Niagara Smelting Corp., Niagara Falls, N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Stauffer Chem. Co., 420 Lexington Ave., N. Y.

CHLOROPHYLL (see also Essential Oils)

Berje Prods. Co., 616 44th St., N. Y. 18
A. C. Drury & Co., 219 E. North Water St., Chicago
Fritzsche Bros., 76 Ninth Ave., N. Y. 11
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Interstate Color Co., 5 Beekman St., N. Y.
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y.
Merck & Co., Rahway, N. Y.
S. B. Penick & Co., 50 Church St., N. Y.
R. J. Prentiss & Co., 110 William St., N. Y.
Pylam Products Co, 799 Greenwich St., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
Sandoz Chem. Works, Inc., 61 Van Dam St., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y. 14

CITRAL (see Aromatic Chemicals)

CITRONELLAL (see Aromatic Chemicals)

CITRONELLA OIL (see Essential Oils)

CITRONELLOL (see Aromatic Chemicals)

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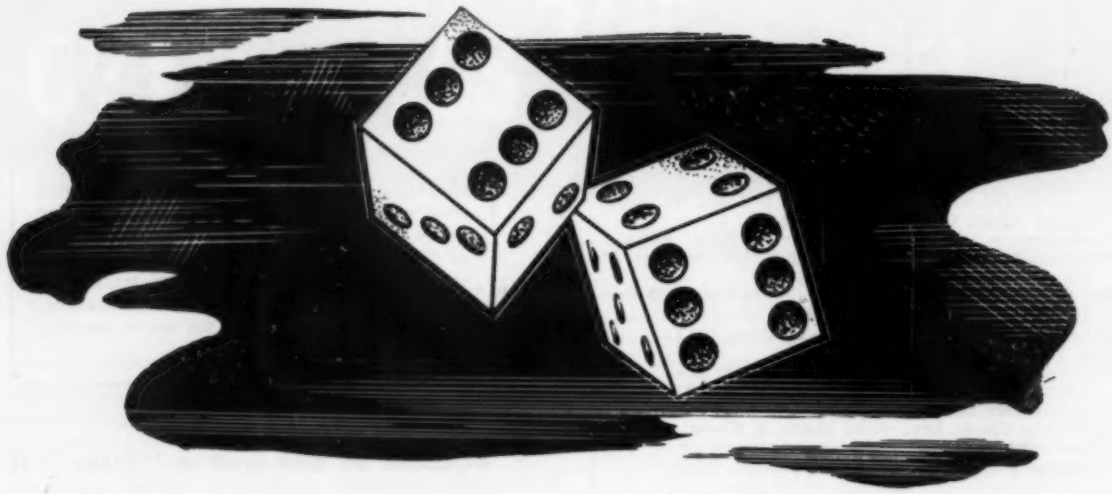
VOLCLAY is produced in air-floated powders, some impalpably fine. Also as "KWK" — a pellet form that astonishingly disperses in water very quickly and yet yields the same colloidal gels as fine powder.

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- **Absorbs certain proteins, also carbon**
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American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Atlantic Refining Co., 260 S. Broad St., Phila.
Attapulgus Clay Co., 210 W. Washington Sq., Phila.
California Industrial Minerals Co., Friant, Calif.
Charles B. Chrystal Co., 53 Park Pl., N. Y.
Dicalite Co., 756 S. Broadway, Los Angeles, Cal.
Fezandie & Sperrle, 205 Fulton St., N. Y.
Filtrol Corp., 634 S. Spring St., Los Angeles
Floridin Co., 220 Liberty St., Warren, Pa.
Goris & Co., 8124 S. Hoyne Ave., Chicago
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Heckathorn & Co., Richmond, Calif.
Hercules Powder Co., Wilmington, Del.
J. M. Huber, Inc., 620 62nd St., Brooklyn
Illinois Silica Co., Cairo, Ill.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
International Silica Co., Cairo, Ill.
Natura Minerals Co., 108 W. 6th St., Los Angeles
National Sales Corp., 33 E. 13th St., Cincinnati
Owyhee Chemical Products Co., 300 W. Adams St., Chicago
Peerless Clay & Mineral Co., Pueblo, Colo.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
L. A. Salomon & Bro., 216 Pearl St., N. Y.
F. E. Schundler & Co., Joliet, Ill.
Sinclair Refining Co., East Chicago, Ind.
Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago
Tamms Silica Co., 228 N. LaSalle St., Chicago
United Clay Mines Corp., 101 Oakland St., Trenton, N. J.
R. T. Vanderbilt Co., 230 Park Ave., N. Y.
Chas. A. Wagner Co., 813 Callowhill St., Phila.
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.
Wyodak Chem. Co., 4600 E. 71 St., Cleveland

CLEANERS, LIQUID (see also Floor Scrub Soaps, also Cleaning Fluids)

Alexander Chem. Co., 511 Willoughby Av., Brooklyn 6
Alrose Chem. Co., Box 1294, Providence, R. I.
American Chemical Paint Co., Ambler, Pa.
American Oil & Disinfectant Co., 80 8th Ave., N. Y. 11
American Soap & Washoline Co., Cohoes, N. Y.
Ampion Corp., 47-02 5th St., Long Island City, N. Y.
An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Calif.
Antara Prods., 444 Madison Ave., N. Y. 22
Antiseptol Co., 5524 Northwest Highway, Chicago
Armour & Co., 1355 W. 31st, Chicago
Baird & McGuire, Inc., Holbrook, Mass.
Banner Chem. Prods. Co., 60 Elm St., Newark, N. J.
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Barton Chemical Co., 3907 S. Langley Ave., Chicago
Boston Chemical Industries, 64 E. Brookline St., Boston
Bri-Test Prods. Corp., 845 E. 138th St., N. Y.
Buckingham Wax Co., 51-03 Van Dam St., L. I. City, N. Y.
Cadet Laboratories, 10 Clarence St., Worcester 5, Mass.
Cenol Co., 4250 N. Pulaski Ave., Chicago
Chemical Compounding Corp., 262 Huron St., Brooklyn
Chemical Mfg. & Dist. Co., Easton, Pa.
Chemical Service Co., Baltimore 30, Md.
Chicago Sanitary Prods. Co., 3100 S. Throop St. Chicago
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
Cole Laboratories, 22-19 37th Ave., L. I. City, N. Y.
Continental Car-Na-Var Corp., Brazil, Ind.
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
Curran Corp., Lawrence, Mass.
Davies-Young Soap Co., Dayton, Ohio
Dow Chemical Co., Midland, Mich.
Diversey Corp., 53 W. Jackson Blvd., Chicago
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eagle Soap Corp., Huntington, Ind.
Emulsol Corp., 59 E. Madison St., Chicago
Fairfield Labs., Inc., 417 Cleveland Ave., Plainfield, N. J.
Fine Organics, Inc., 211 E. 19 St., N. Y. 3
Franklin Research Co., 5134 Lancaster Ave., Phila., Pa.
Fuld Bros., 702 So. Wolfe St., Baltimore
Gaylord Chem. Co., 701 Woodsweather Rd., Kansas City
Gleamite Co., Coudersport, Pa.
James Good, Inc., 2116 E. Susquehanna Ave., Phila.
Haag Laboratories, Inc., 140th & Seely Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Phila.
Hercules Chem. Co., 332 Canal St., N. Y.
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco, Cal.
R. M. Hollingshead Corp., Camden, N. J.
Hubman Supply Co., 225 N. 4th St., Columbus, Ohio
James Huggins & Son, Madden, Mass.
Hull Co., 305 Washington St. Brooklyn
Hysan Prods. Co., 932 W. 38th Place, Chicago
Imperial Prods. Co., 1600 Fontain St., Phila.
Kearny Mfg. Co., Kearny, N. J.
Klix Chem. Co., 2460 Third St., San Francisco
Koppers Co., White Tar Div., Kearny, N. J.
Lewis Soap & Chem. Co., 2210 San Pablo Ave., Oakland Calif.
Los Angeles Soap Co., 617 E. 1st St., Los Angeles
M. & H. Laboratories, 2703 Archer Ave., Chicago
Manhattan Kreole Prods., 172 N. 10 St., Brooklyn
M. Michel & Co., 90 Broad St., N. Y.
Midland Labs., Dubuque, Iowa
Miranol Chem. Co., 16 Melville Pl., Irvington, N. J.
Multi-Clean Prods., Inc., 2277 Ford P'kway, St. Paul, Minn.
Mutual Chem. & Supply Co., 257 W. Gay St., Columbus, Ohio
Nopco Chemical Co., Harrison, N. J.
Oil-Kraft, Inc., 3330 Beekman St., Cincinnati
Oronite Chemical Co., 200 Bush St., San Francisco
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Pennsylvania Refining Co., Butler, Pa.
Penna. Salt Mfg. Co., Widener Bldg., Phila.
Puritan Chem Co., Atlanta, Ga.
Quaker Chem. Prods. Co., Conshohocken, Pa.
Rex-Cleanwall Corp., Brazil, Ind.
R. G. A. Laboratories, 145 W. 45th St., N. Y.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Rochester Sanitary Prods. Co., 874 Seward St., Rochester, N. Y.
Rohm & Haas Co., W. Washington Sq., Philadelphia
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Savin Products Co., 1221 Dorchester Ave., Boston 25
Seaboard Distributors, 60 Park Pl., Newark, N. J.
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
Slick-Shine Co., 207 Astor St., Newark, N. J.
E. B. Snyder Labs., 2137 E. Harold St., Philadelphia
Solshine Mfg. Co., 423 Second St., Fall River, Mass.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
John T. Stanley Co., 642 W. 30th St., N. Y.
S. S. Stafford, Inc., 603 Washington St., N. Y.
Stephan Chem. Co., 1353 N. Branch St., Chicago 22
Sugar Beet Prods. Co., Saginaw, Mich.
Tech. Soap Co., 125 W. 46th Place, Chicago
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Texol Chem. Wks., 75 Ward St., Worcester, Mass.
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City, Mo.
Transmotive Laboratories, 2550 S. Michigan Ave., Chicago
Trio Chem. Wks., 341 Scholes St., Bklyn.
Twi-Laq Chem. Co., 25 N. Portland Ave., Bklyn.
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Ultra Chem. Wks., Box 1536, Paterson, N. J.
Uncle Sam Chemical Co., 573 W. 131st St., New York City
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
Universal Chem. Corp., Akron, O.
James Varley & Sons, 1200 Switzer Ave., St. Louis
Vestal, Inc., 4963 Manchester St., St. Louis 10
Warwick Wax Co., 10-10 44th Ave., L. I. City 1, N. Y.
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Alrose Chem. Co., Box 1294, Providence, R. I.
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Falcon Pine Disinfectant

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Falcon Economy Scrub Soap
Falcon Liquid Terrazzo Soap
Falcon Liquid Linseed Soap
Vegetable Oil Jelly Soap
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Baird & McGuire, Inc., Holbrook, Mass.
Barton Chemical Co., 3907 S. Langley Ave., Chicago
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Banner Chem. Prods. Co., 60 Elm St. Newark 5
Beach Soap Co., Lawrence, Mass.
Blockson Chemical Co., Joliet, Ill.
Bonewitz Chemicals, Inc., Burlington, Ia.
Brilco Laboratories, 947-61st St., Brooklyn, N. Y.
Cary Mfg. Co., 4586 Felton St., San Diego 4, Calif.
California Industrial Minerals Co., Friant, Calif.
Philip Carey Mfg. Co., Lockland, Cincinnati
Chemical Mfg. & Dist. Co., Easton, Pa.
Chem. Service Co. of Balto., Howard & Fast Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clarkson Co., 919 N. 9th St., Phila. 23
Clifton Chem. Co., 62 William St., N. Y.
Cole Cabs., 22-19—37th Ave., Long Island City
Columbia Soap & Chem. Co., Inc., 217-221 Clara St., San Francisco
Continental Car-Na-Var Corp., Brazil, Ind.
Cowles Chemical Co., Cleveland, Ohio
Crystal Labs., Inc., 21 W. Park Way, N. E., Pittsburgh
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
Cudahy Packing Co., 221 N. LaSalle St., Chicago
Davies-Young Soap Co., Dayton, O.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Diversey Corp., 53 W. Jackson Blvd., Chicago
E. F. Drew & Co., 15 E. 26 St., N. Y. 10
E. I. du Pont de Nemours & Co., Wilmington, Dela.
Eagle Soap Corp., Huntington, Ind.
Emeryville Chem. Co., 405 Montgomery St., San Francisco
Emulsol Corp., 59 E. Madison St., Chicago
Fairfield Labs., Inc., 417 Cleveland Ave., Plainfield, N. J.
Filtrol Corp., 634 S. Spring St., Los Angeles
Fuld Bros., 702 S. Wolfe St., Baltimore
Gaskill Products, 9 S. Letitia St., Phila.
Gaylord Chem. Co., 505 W. 5th St., Kansas City, Mo.
James Good, Inc., 2116 E. Susquehanna Ave., Phila.
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Newman, Tallow & Soap Mchy. Co., 1051 W. 35th St., Chicago
Pneumatic Scale Corp., North Quincy, Mass.
U. S. Bottlers Mchy. Co., 4015 N. Rockwell St., Chicago

CORKS

Armstrong Cork Co., Lancaster, Pa.
Cork Import Corp., 330 W. 42nd St., N. Y.
Dodge Cork Co., Lancaster, Pa.

CORN OIL

(see also Brokers and Dealers)

American Maize Prods. Co., 110 E. 42nd St., N. Y.
Balfour, Guthrie & Co., Ltd., 67 Wall St., N. Y.
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Corn Products Refining Co., 17 Battery Pl., N. Y.
Durkee Famous Foods, Inc., 2670 Elston Ave., Chicago
Early & Daniel Co., Ingalls Bldg., Cincinnati
Otto A. C. Hagen Corp., 929 Public Ledger Bldg., Phila.
Spencer Kellogg & Sons, Buffalo, N. Y.
Leghorn Trading Co., 21 West St., N. Y.
National Starch Products, 270 Madison Ave., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.
Woolner & Co., Peoria, Ill.

COSMETICS (Private Brand Compacts, Lipsticks, etc.)

Allied Products, Inc., Suffern, N. Y.
Amer. Perfumers Labs., 30 Rockefeller Plaza, N. Y.
Corn King Co., Cedar Rapids, Ia.
Cadet Laboratories, 10 Clarence St., Worcester 5, Mass.
Richard Gesell, Inc., 200 W. Houston St., N. Y.
Luxor, Ltd., 1355 W. 31st St., Chicago
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City 2
Schmidt Soap Products 236 W. North Ave., Chicago
Julius Schmid, Inc., 423 W. 55th St., N. Y.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

COTTONSEED FATTY ACIDS (and Soapstock)

(see also Brokers and Dealers)

Archer-Daniels-Midland Co., Minneapolis 2
Armour Chem. Div., Armour & Co., 1355 W. 31st St., Chicago
Concord Chemical Co., Public Ledger Bldg., Phila. 6
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Durkee Famous Foods, Inc., 2670 Elston Ave., Chicago
Eastern Industries, Inc., Ridgefield, N. J.
Emery Industries, Inc., 4300 Carew Tower, Cincinnati
General Mills, Chemical Div., 400 2nd Ave., Minneapolis 1
Griffin Chem. Co., 1000 16th St., San Francisco
A. Gross & Co., 295 Madison Ave., N. Y.
Otto A. C. Hagen Corp., 929 Public Ledger Bldg., Phila.
W. C. Hardesty Co., 41 E. 42nd St., N. Y
Spencer-Kellogg & Sons, Buffalo, N Y.
Portsmouth Cotton Oil Refining Co., Portsmouth, Va.
Procter & Gamble Co., Cincinnati, O.
J. H. Redding, Inc., 17 Battery Place, N. Y.
Werner G. Smith Co., 2191 W. 110th St., Cleveland
Southern Cotton Oil Co., Produce Exchange, N. Y.
Welch Holme & Clark Co., 439 West St., N. Y.
Wilson-Martin Co., Swanson St., Phila.
Woburn Chemical Corp., Harrison, N. J.

COTTONSEED OIL

(see also Brokers and Dealers)

Durkee Famous Foods, Inc., 2670 Elston Ave., Chicago
Eastern Industries, Inc., Ridgefield, N. J.
Otto A. C. Hagen Corp., 929 Public Ledger Bldg., Phila.
Spencer Kellogg & Sons, Buffalo, N. Y.
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco 7

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Benzene hexachloride formulations containing 25% and 6% gamma isomer.

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For use in the preparation of dusts and sprays for a diversified list of insects on fruits and vegetables.

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A finely-ground powder containing 50% Geigy DDT. For general agricultural use after addition of diluents to formulate DDT dusts.

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Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Sergeant Chem. Co., 7 Dey St., N. Y.
C. F. Simonin's Sons, Phila.
Southern Cotton Oil Co., Produce Exchange, N. Y.
Welch Holme & Clark Co., 439 West St., N. Y.

COUMARIN

(see also Aromatic Chemicals)

Aromatic Products, Inc., 15 E. 30th St., N. Y.
Dodge & Olcott, Inc., 180 Varick St., N. Y.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Fritzsche Bros., 76 Ninth Ave., N. Y. 11
General Drug Co., 170 Varick St., N. Y.
Givaudan-Delawanna, 330 W. 42nd St., N. Y.
Lautier Fils, 321 5th Ave., N. Y. 16
Maywood Chemical Wks., Maywood, N. J.
Merck & Co., Rahway, N. J.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis
Naugatuck Aromatics, 254 Fourth Ave., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Verona Chem. Co., 26 Verona Ave., Newark, N. J.

CREOSOTE OIL (see Coal Tar Raw Materials)

CRESOL COMPOUND, U.S.P. and Technical (see Disinfectants, Coal Tar)

CRESOLS (see Coal Tar Raw Materials)

CRESYLIC ACID (see Coal Tar Raw Materials)

CRESYLIC ACID, (Petroleum Origin)

California Commercial Co., 30 Rockefeller Plaza, N. Y.
Concord Chemical Co., Public Ledger Bldg., Phila. 6,
Oronite Chem. Co., 200 Bush St., San Francisco 4
Reilly Tar & Chem. Corp., Indianapolis
Shell Oil Co., 50 W. 50th St., N. Y.
Standard Oil Co. of Calif., San Francisco

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Allied Steel & Equipment Co., Chester, N. J.
Atlas Steel Construction Co., Irvington, N. J.
Chemical & Process Machy. Corp., 146 Grand St., N. Y. 13 (Used)
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
Edge Moor Iron Wks., Edge Moor, Del.
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259—46th St., Brooklyn
Industrial Process Engineers, 8 Lister Ave., Newark 5
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago
H. K. Porter Co., Oliver Bldg., Pittsburgh
Stein Equipment Co., 90 West St., N. Y. (Used)
Struthers-Wells Co., Warren, Pa.

CUBE

Chipman Chem. Co., Bound Brook, N. J.
Derris, Inc., 79 Wall St., N. Y.
Enco Chem. Corp., 441 Lexington Ave., N. Y.
Greene Trading Co., 70 Pine St., N. Y.
Hammond Paint & Chem. Co., Beacon, N. Y.
Heckathorn & Co., Richmond, Calif.
Ketoid Chem. Co., 549 W. Washington, Chicago
Lenape Trading Co., 233 Broadway, N. Y.
Orbis Products Corp., 215 Pearl St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y.
John Powell & Co., 1 Park Ave., N. Y.
R. J. Prentiss & Co., 110 William St., N. Y.
Frank B. Ross Co., 507—8th St., Hoboken, N. J.
Stauffer Chemical Co., 420 Lexington Ave., N. Y.
U. S. Industrial Chemicals, Inc., 60 E. 42nd St., N. Y. C.
Whitmire Research Corp., 839 S. Vandeventer, St. Louis.

CUTTING TABLES (see Soap Machinery)

CYANIDES (see Fumigants) (see Sodium Cyanide)

DDT (Dichloro-diphenyl-trichloroethane)

J. T. Baker Chemical Co., Phillipsburg, N. J.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Geigy Co., Inc., 89 Barclay St., N. Y.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y.
Kolker Chem. Works, 80 Lister Ave., Newark, N. J.
Merck & Co., Rahway, N. J.
Michigan Chem. Corp., St. Louis, Mich.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis, Mo.
Montrose Chem. Co., 120 Lister Ave., Newark, N. J.
Pennsylvania Salt Mfg. Co., Widener Bldg., Phila.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Stauffer Chemical Co., 420 Lexington Ave., N. Y.
Westvaco Chem. Div., Food Machy. & Chem. Corp., 405 Lexington Ave., N. Y.

DDT FORMULATIONS (Liquids and Powders)

Central Chemical Co., 5137 S. West Ave., St. Louis
Chemical Mfg. & Dist. Co., Easton, Pa.
Derris, Inc., 79 Wall St., N. Y.
Dow Chemical Co., Midland, Mich.
Elkay Prods. Co., 323 W. 16 St., N. Y. 11
Eston Chemicals, Inc., 3100 E. 26th St., Los Angeles
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Co., Inc., 89 Barclay St., N. Y.
Griffin Chem. Co., 1000 16th St., San Francisco
Heckathorn & Co., Richmond, Calif.
Hercules Powder Co., Wilmington
Hysan Products Co., 932 W. 38th Pl., Chicago
Innis, Speiden & Co., 117 Liberty St., N. Y. 6
Imperial Products Co., 1600 Fontain St., Phila.
Industrial Management Corp., 458 S. Spring St., Los Angeles, Calif.
McLaughlin, Gormley King Co., Minneapolis
Orbis Products Corp., 215 Pearl St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y.
Penna. Salt Mfg. Co., Widener Bldg., Phila.
John Powell & Co., 1 Park Ave., N. Y.
R. J. Prentiss & Co., 110 William St., N. Y.
Quaker Chem. Prods. Co., Conshohocken, Pa.
Regal Chem. Corp., Bklyn., 22
Rohm & Haas Co., 222 W. Washington Sq., Phila.
E. B. Snyder Labs., 2137 E. Harold St., Phila. 35
Stepan Chem. Co., 1353 N. Branch St., Chicago 22
Trio Chemical Wks., 341 Scholes St., Brooklyn, 6
Westvaco Chem. Div., Food Machy. & Chem Corp., 405 Lexington Ave., N. Y. 17
Uncle Sam Chemical Co., 575 W. 131 St., N. Y. 27

DEALERS (Chemicals)

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Alrose Chem. Co., 80 Clifford St., Providence, R. I.
American-British Chem. Supplies, 180 Madison Ave., N. Y.
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
American Oil & Supply Co., 236 Wilson Ave., Newark, N. J.
Axton-Cross Co., Shelton, Conn.
Baker & Gaffney, Drexel Bldg., Philadelphia
H. J. Baker & Bro., 271 Madison Ave., N. Y.
Barada & Page, Kansas City, Mo.
S. H. Bell Co., 1407 Gulf Bldg., Pittsburgh
Benner Chemical Co., 20 N. Wacker St., Chicago
Braun-Knecht-Heimann Co., 584 Mission St., San Francisco
Buckeye Soda Products Co., 32 Main St., Cincinnati
John H. Calo & Co., 19 Rector St., N. Y.
John A. Chew, Inc., 60 E. 42nd St., N. Y.
Alan A. Claflin, 88 Broad St., Boston
Consumers Chemical Co., Drexel Bldg., Philadelphia
T. G. Cooper & Co., Cedar & Venango Sts., Phila. 34
Dickerson Co., Drexel Bldg., Phila.
Doe & Ingalls, 56 Garden St., Boston
A. C. Drury & Co., 219 E. North Water St., Chicago
Eastern Industries, Ridegfield, N. J.
Eaton Clark Co., 1490 Franklin St., Detroit

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MINERAL OILS . . .

Petrolatum — White Mineral Oils

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Stearic Acid	Red Oil	White Olein

Cottonseed Oil — Soya Bean Oil

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F. P. L. Chemical Co., 647 West Virginia St., Milwaukee
Faesy & Besthoff, 220 E. 42nd St., N. Y. 17
Alex C. Fergusson Co., Drexel Bldg., Phila.
Fort Pitt Chemical Co., 3134 Penn Ave., Pittsburgh
Gaylord Chem. Co., 701 Woodswether Rd., Kansas City
Globe Chemical Co., Murray Road, Cincinnati
Griffin Chem. Co., 1000 16th St., San Francisco
Otto A. C. Hagen Corp., 929 Public Ledger Bldg., Phila.
C. P. Hall Co., Akron, Ohio
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Herbert Chem. Co., Vine & Murray Rd., Cincinnati
Arnold Hoffman & Co., 55 Canal St., Providence, R. I.
Howe & French, 99 Broad St., Boston
Hummel Chemical Co., 90 West St., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
E. & F. King & Co., 405 Atlantic Ave., Boston
Los Angeles Chem. Co., 2200 Santa Fe Ave., Los Angeles
John F. Maher & Co., 1600 Henderson St., Houston, Tex.
George Mann & Co., 251 Fox Point Blvd. Providence, R. I.
Merchants Chemical Co., 60 East 40th St., N. Y.
Millard-Heath Co., 14 Pine St., St. Louis
Clarence Morgan & Co., 355 W. Ontario St., Chicago
Mulcahy & Griffin, 141 Milk St., Boston
National Oil & Supply Co., 172 Frelinghuysen Ave., Newark, N. J.
National Sales Co., 31 E. 13th St., Cincinnati
Wm. D. Neuberg Co., 420 Lexington Ave., N. Y.
Neumann-Buslee & Wolfe, 224 W. Huron St., Chicago
Newman Tallow & Soap Machinery Co., 1051 W. 35th St., Chicago
R. Peltz Co., 995 Drexel Bldg., Philadelphia
Pfaltz & Bauer, Inc., 350 5th Ave., N. Y.
Philipp Bros. Chemicals, 37 Wall St., N. Y.
H. B. Prior Co., 420 Lexington Ave., N. Y.
Providence Textile Chem Co., 2 Randall St., Providence, R. I.
Chas. L. Read & Co., 120 Greenwich St., N. Y.
R. F. Revson Co., 144 W. 18th St., N. Y.
James H. Rhodes & Co., 153 W. Hubbard St., Chicago
G. S. Robins & Co., 126 Chouteau Ave., St. Louis
Rodgers Chemical Co., Fitzsimmons Bldg., Pittsburgh
Rogers & McClellan, 143 Milk St., Boston
Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Sanders & Sloat, 180 Bdway., N. Y.
H. J. Rolls Chemical Co., Buffalo, N. Y.
George Senn, Philadelphia Bourse, Phila.
Sessions-Gifford Co., 255 Allens Ave., Providence, R. I.
Siegel Chem Co., 1 Hanson Pl., Brooklyn
Irving M. Sobin Co., 72-74 Granite St., Boston
J. U. Starkweather Co., Providence, R. I.
Thompson-Hayward Chem. Co., 2915 Southwestern Blvd., Kansas City
Arthur C. Trask Co., 4103 S. La Salle St., Chicago, Ill.
Jos Turner & Co., Ridgefield, N. J.
Verona Chem. Co., 26 Verona Av., Newark, N. J.
Chas. A. Wagner Co., 813 Callowhill St., Phila.
Welch, Holme & Clark Co., 439 West St., N. Y.

DEALERS (Oil and Fats)

Balfour, Guthrie & Co., 67 Wall St., N. Y.
John H. Calo Co., 19 Rector St., ... Y. 6
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Eastern Industries, Ridgefield, N. J.
William Eisenstadt, 141 W. Jackson Blvd., Chicago
Elgo Trading Corp., 220 Broadway, N. Y. 7
E. H. Frey Co., 2 Broadway, N. Y.
Alex Fergusson Co., Drexel Bldg., Philadelphia
Gaylord Chemical Co., 701 Woodswerther Rd., Kansas City, 6, Mo.
Otto A. C. Hagen Corp., 929 Public Ledger Bldg., Phila.
A. W. Harris Oil Co., Providence, R. I.
Innes & Co., 82 Wall St., N. Y.
E. G. James Co., 332 So. La Salle St., Chicago
Kullman & Co., 339 Produce Exchange, N. Y.
Leghorn Trading Co., 21 West St., N. Y.
Lehigh Chemical & Export Co., 55 Liberty St., N. Y. 5
Miller & Co., 2401 Chestnut St., Philadelphia
Clarence Morgan & Co., 919 N. Michigan, Chicago
Murray Oil Products Co., 21 West St., N. Y.
Newman Tallow & Soap Machinery Co., 1501 W. 35th St., Chicago

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METASILICATE
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POTASSIUM CARBONATE
SAL AMMONIAC
SALT
SAL SODA
SILICATE OF SODA
SODA ASH
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CASTOR OIL
COCOANUT OIL
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OLIVE OIL FOOTS
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PALM KERNEL OIL
PEANUT OIL
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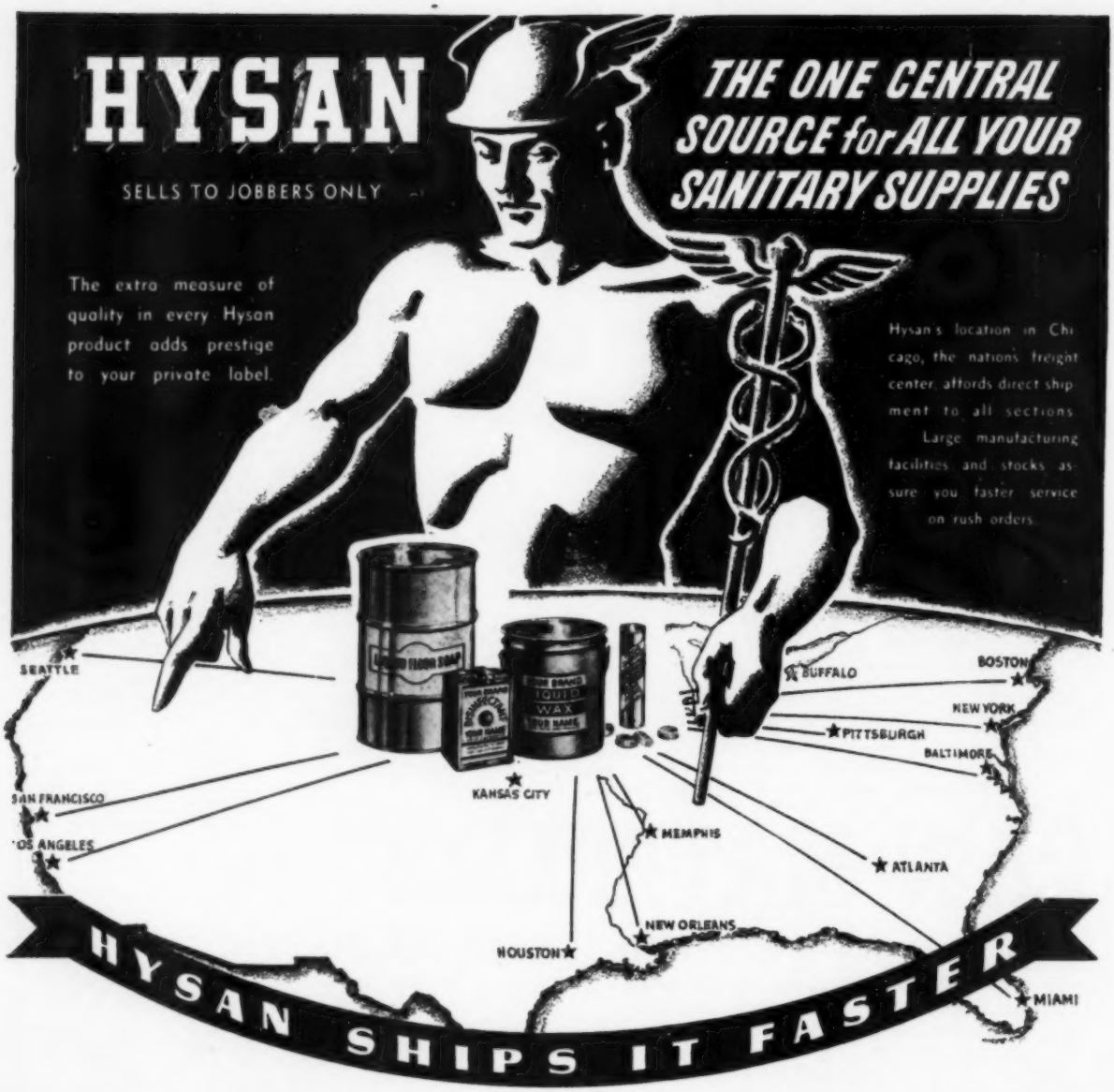
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Willibald Schaefer Co., Foot of Boemen Ave., St. Louis
George Senn, Philadelphia Bourse, Phila.
Sergeant Chemical Co., 7 Dey St., N. Y.
Siegel Chem. Co., 1 Hanson Pl., Brooklyn
Smith-Weihman Co., 15 Moore St., N. Y.
Swan-Finch Oil Corp., 30 Rockefeller Plaza, N. Y.
Arthur C. Trask Co., 4103 S. La Salle St., Chicago
Tunley & Co., 60 Beaver St., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.

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Cliffs-Dow Chem. Co., Marquette, Mich.
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Durkee Famous Foods, Inc., 2670 Elston Ave., Chicago
Filter Paper Co., 2464 S. Michigan Ave., Chicago
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
L. A. Salomon & Bros., 216 Pearl St., N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.

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DEODORIZED KEROSENE (see Petroleum Insecticide Base Oils)

DEGRAS (see Wool Grease)

DEGREASING COMPOUNDS (see Cleaners, Liquid)

DEODORIZING Block Holders (see Holders, Deodorizing Blocks)

DEODORIZING BLOCK PERFUMES (see Perfuming Compounds)

DEODORIZING BLOCK PRESSES (see Presses)

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Alan Porter Lee, Inc., 150 Broadway, N. Y.
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Pfaudler Co., 89 East Ave., Rochester, N. Y.
F. J. Stokes Machine Co., 5918 Tabor Rd., Phila.
Wurster & Sanger, 5201 Kenwood Ave., Chicago

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Chipman Chem. Co., Bound Brook, N. J.
Derris, Inc., 79 Wall St., N. Y.
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Greene Trading Co., 60 Wall St., N. Y.
Hammond Paint & Chem. Co., Beacon, N. Y.
Heckathorn & Co., Richmond, Calif.
Ketoid Chem. Co., 549 W. Washington, Chicago
Orbis Products Corp., 215 Pearl St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y.
John Powell & Co., 1 Park Ave., N. Y.
R. J. Prentiss & Co., 110 William St., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Stauffer Chemical Co., 420 Lexington Ave., N. Y.
U. S. Industrial Chemicals, Inc., 60 E. 42nd St., N. Y. C.
Whitmire Research Corp., 339 S. Vandeventer, St. Louis

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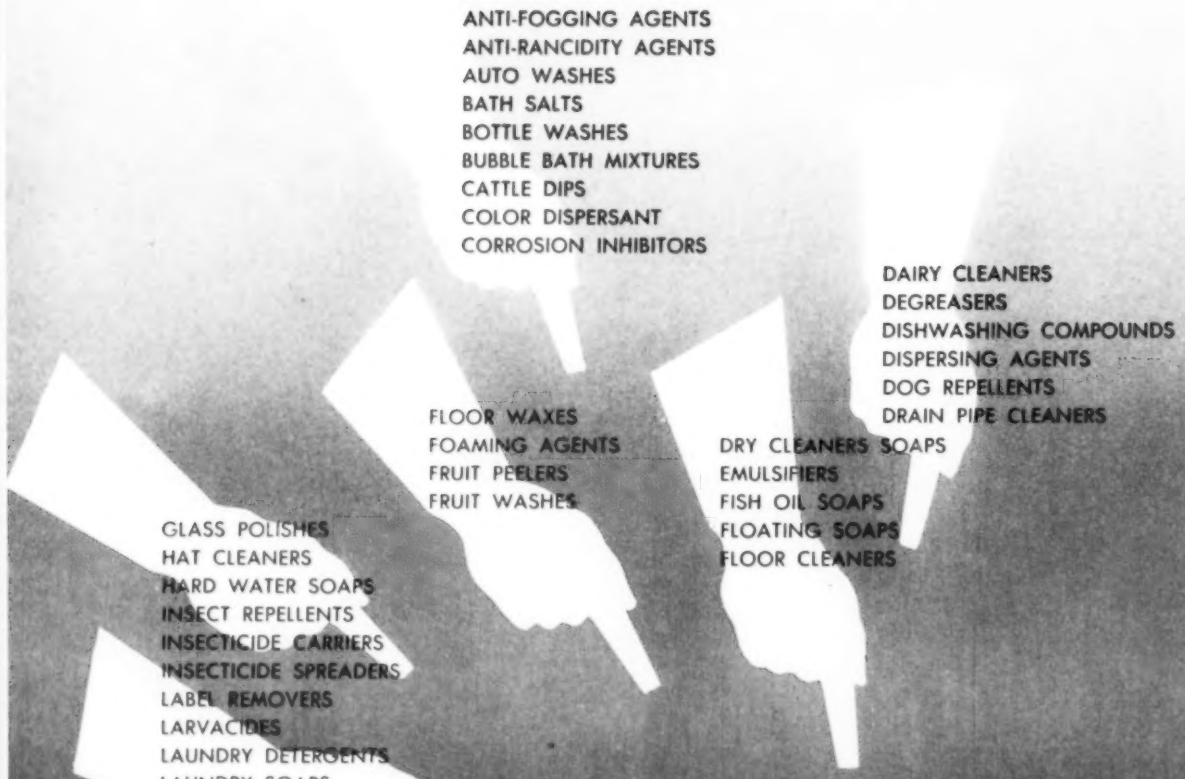
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Click Chemical Co., 41 Morrell St., Brooklyn
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Clifton Chem. Co., 62 William St., N. Y.
Cole Laboratories, 22-19 37th Ave., L. I. City, N. Y.
Columbia Soap & Chem. Co., Inc., 324 Leavenworth St., San Francisco
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
Crystal Labs, Inc., 21 W. Park Way, N. E., Pittsburgh
Davies-Young Soap Co., Dayton, O.
Eagle Soap Corp., Huntington, Ind.
Elkay Products Corp., 323 W. 16th St., N. Y.
Fitch Dustdown Co., 801 S. Howard St., Baltimore
Fuld Bros., 702 S. Wolfe St., Baltimore
Gaylord Chem. Co., 701 Woodswether Rd., Kansas City, Mo.
James Good, Inc., 2116 E. Sushquehanna Ave., Phila.
Goulard & Olena, Skillman, N. J.
Higley Chemical Co., Dubuque, Iowa
Hockwald Chemical Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
Hubman Supply Co., 225 N. 4th St., Columbus, O.
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Imperial Prods. Co., 1600 Fontain St., Phila.
Industrial Labs., 17-19 W. Conway St., Baltimore
Jansen Soap & Chemical Co., 324 Leavenworth St., San Francisco, Calif.
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Kleenaire KemiKils, 2227 24th St., Detroit
Klix Chem Co., 2460 Third St., San Francisco
Koppers Co., White Tar Div., Kearny, N. J.
Lewis Soap & Chem. Co., 383 Seventh St., Oakland, Calif.
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Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Puritan Chemical Co., Atlanta, Ga.
The Puro Co., 2801 Locust St., St. Louis
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Rochester Germicide Co., 333 Hollenbeck St., Rochester 5, N. Y.
Selig Co., 336 Marietta St., Atlanta, Ga.
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Solvay Sales Div., Allied Chemical & Dye Corp., 40 Rector St., N. Y. 6
Trio Chem. Wks., 341 Scholes St., Bklyn.
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Specialties Corp., 1001 S. California Blvd., Chicago 12
Vestal, Inc., 4963 Manchester St., St. Louis 10
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Boston Chemical Industries, 64 E. Brookline St., Boston
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Chem. Service Co. of Balto., Howard & Fast Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clarkson Co., 919 N. 9 St., Phila. 23
Continental Car-Na-Var Corp., Brazil, Ind.
Cowles Chemical Co., 7016 Euclid Ave., Cleveland
Curran Corp., Lawrence, Mass.
Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14
Diversey Corp., 53 W. Jackson Blvd., Chicago
E. F. Drew & Co., 15 E. 26th St., N. Y.
DuBois Soap Co., Cincinnati
E. I. du Pont de Nemours & Co., Wilmington, Del.
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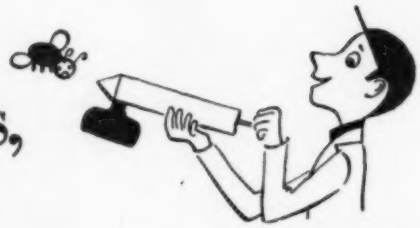
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A. R. Maas Chem. Co., South Gate, Calif.
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Mathieson Chem. Corp., 60 E. 42nd St., N. Y.
Miranol Chemical Co., 16 Melville Pl., Irvington, N. J.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis
Napthole, Inc., 15 E. 26th St., N. Y.
Oil States Pet. Co., 233 Broadway, N. Y.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila.
Philadelphia Quartz Co., Public Ledger Bldg., Independence Sq., Phila. 6
Pittsburgh Plate Glass Co., Columbia Chemical Div., 5th & Bellefield, Pittsburgh 13
Port Huron Detergent Co., Port Huron, Mich.
Quaker Chem. Prods. Co., Conshohocken, Pa.
Refined Prods. Corp., Lyndhurst, N. J.
Rex-Cleanwall Corp., Brazil, Ind.
Rulon Laboratories, Bryant Bldg., Kansas City
Rumford Division, Heyden Chemical Co., Rumford, R. I.
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Savin Products Co., 1221 Dorchester Ave., Boston 25
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
Stevens Soap Corp., 200 Sullivan St., Brooklyn, N. Y.
E. B. Snyder Labs., 2137 E. Harold St., Philadelphia
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John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Superior Soap Corp., 121 Nostrand Ave., Brooklyn
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Trio Chemical Wks., 341 Scholes St., Brooklyn 6
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Jos. Turner & Co., Ridgefield, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
Virginia-Carolina Chem. Corp., Richmond, Va.
Warwick Wax Co., 10-10 44th Ave., L. I. C. 1, N. Y.
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Welch, Holme & Clark Co., 439 West St., N. Y.
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Antara Prods., 444 Madison Ave., N. Y.
Armour & Co., 1355 W. 31 St., Chicago 9
Atlantic Refining Co., 260 S. Broad St., Phila.
Atlas Powder Co., Wilmington, Del.
Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Carlstadt Chem. Co., Carlstadt, N. J.
Commercial Solvents Corp., 17 E. 42nd St., N. Y.
E. F. Drew & Co., 15 E. 26 St., N. Y. 10
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
Emulsol Corp., 59 E. Madison St., Chicago
General Dyestuff Corp., 435 Hudson St., N. Y.
Kamen Soap Products Co., Woolworth Bldg., N. Y.
Lehigh Chem. & Export Co., 55 Liberty St., N. Y.
Maywood Chem. Wks., Maywood, N. J.
Miranol Chemical Co., 16 Melville Pl., Irvington, N. J.
M. Michel & Co., 90 Broad St., N. Y.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis
National Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Nopco Chem. Co., Harrison, N. J.
Oil States Petroleum Co., 233 Broadway, N. Y.
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Atlantic Ultrawets are alkyl aryl type anionic surface-active agents with excellent sudsing and wetting properties, especially in hard water. Though mild and neutral, their pronounced surface activity makes them powerful detergents.

They are light amber to white in color and almost odorless. They are available in liquid, flake and bead form.

As flakes and beads, they are used primarily as constituents in dry-mixed compounds. As liquids, they are used in stock solutions for industrial processing, in compounding liquid products, and in preparing liquids or slurries for drum or spray drying.

Chemically the Ultrawets are stable in acid and alkaline media, and their low sensitivity to calcium, magnesium and other heavy metal ions makes them especially desirable in hard water. They are compatible with acid, alkaline and neutral salts, soaps, anionic and nonionic detergents and other materials commonly used in cleaning compounds. However, like all anionic detergents, they react and should not be used with cationic (quaternary ammonium) surface-active agents.

The Ultrawets have been used to advantage in many types of products and applications. Among them are: Dishwashing compounds, detergents for fine fabrics, scouring powders, paint cleaners, wallpaper removers, light and heavy duty household detergents, window cleaners, upholstery and rug shampoos, automobile and aircraft body cleaners, liquid soaps, shampoos, shaving creams, beard softeners, bubble bath preparations, bottle washing compounds, dairy cleaners, glass rinses, laundry detergents, metal cleaners, for wetting out, dye leveling, scouring, wool carbonizing assistant, and so on.

Currently available Ultrawets are:

	Appearance	% Solids	% Active Minimum	% Sodium Sulfate Maximum	Haze Point °F
Ultrawet 30E	Clear, pale yellow liquid	30	25.5	4.5	65
Ultrawet 30DS	Clear, pale yellow liquid	30	25.5	4.5	85
Ultrawet 35K	Yellow to light amber slurry	35	31.5	4.5	180
Ultrawet DS*	Light, cream-colored flakes	100	85.0	15.0	—
Ultrawet K	Light, cream-colored flakes	100	85.0	15.0	—
Ultrawet SK	White, free-flowing beads	100	35.0	65.0	—

• Liquid Ultrawets are supplied in 480-lb. (55-gallon) steel drums and in tank cars; dry-flaked products in 200-lb. (50-gallon) fiber drums; and bead form products in 25-lb. 5-ply paper bags.

*(Formerly "E")

PERFORMANCE TESTS

SURFACE TENSION—at 25° C in dynes/cm

	Concentration Wt. % Product	Distilled Water	300 ppm Hardness	Distilled Water 2% NaOH	Distilled Water 2% H_2SO_4
Ultrawet 30E	0.15 0.50	28.1 27.6	27.3 27.0	27.7 27.3	27.3 27.4
Ultrawet 30DS	0.15 0.50	29.2 28.1	27.4 27.0	27.2 27.3	27.1 27.0
Ultrawet DS*	0.05 0.15	28.9 28.4	27.6 27.5	27.5 27.3	27.7 27.5
Ultrawet 35K	0.15 0.50	29.4 28.6	26.8 26.6	27.2 —	27.5 —
Ultrawet K	0.05 0.15	29.5 28.6	27.2 27.3	27.0 27.0	27.5 27.3
Ultrawet SK	0.05 0.15	31.7 28.2	27.8 27.4	27.3 27.0	27.7 27.1

DRAVES WETTING TIME TEST—at 25° C in seconds

	Concentration Wt. % Product	Distilled Water	300 ppm Hardness	Distilled Water 2% NaOH	Distilled Water 2% H_2SO_4
Ultrawet 30E	0.15 0.50	300+ 14	300+ 11	155 5	185+ 5
Ultrawet 30DS	0.15 0.50	110 7	105 7	63 6	48 4
Ultrawet DS*	0.05 0.15	100 8	85 8	50 6	38 4
Ultrawet 35K	0.15 0.50	25 4	39 4	48 10	39 4
Ultrawet K	0.05 0.15	26 5	40 5	50 12†	40 5
Ultrawet SK	0.05 0.15	300+ 19	300+ 21	300+ 40†	300+ 30

†Solution hazy, not completely miscible

FOAMING ABILITY—at 110° F—ROSS-MILES METHOD for Foam Determination

	Concentration Wt. % Product	Distilled Initially	Distilled 5 Min.	300 ppm Initially	300 ppm 5 Min.
Ultrawet 30E	0.15 0.50	195 230	170 205	65 270	55 230
Ultrawet 30DS	0.15 0.50	200 245	170 215	135 275	110 240
Ultrawet DS*	0.05 0.15	200 240	170 215	154 270	130 240
Ultrawet 35K	0.15 0.50	218 248	190 220	208 276	180 250
Ultrawet K	0.05 0.15	220 245	190 215	200 275	165 235
Ultrawet SK	0.05 0.15	205 235	175 210	50 240	45 205

Samples and further information on the Ultrawets will be supplied on request.

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Verona Chem. Co., 26 Verona Ave., Newark, N. J.
Wyandotte Chemicals Corp., Wyandotte, Mich.

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Carlstadt Chem. Co., Carlstadt, N. J.
Chem. Mfg. & Dist. Co., Easton, Pa.
Clarkson Co., 919 N. 9th St., Phila. 23
Click Chemical Corp., 41 Morrell St., Brooklyn 6
Chicago San. Prod. Co., 3100 S. Throop St., Chicago 8
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Curran Corp., Lawrence, Mass.
Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14
E. F. Drew & Co., 15 E. 26 St., N. Y. 10
E. I. du Pont de Nemours & Co., Wilmington, Del.
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Gaylord Chem Co., 701 Woodswether Rd., Kansas City, Mo.
General Dyestuff Corp., 435 Hudson St., N. Y.
Glyco Products Co., 26 Court St., Brooklyn, N. Y.
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Griffin Chem. Co., 1000 16th St., San Francisco
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Independent Specialties, 152 W. 75th St., Chicago
MacKenzie Laboratories, Front & Yarnall Sts., Chester, Pa.
Mathieson Chemical Corp., 60 E. 42nd St., N. Y.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
V. C. Products Co., Beury Bldg., Philadelphia (Powders)
Wyandotte Chemicals Corp., Wyandotte, Mich.

DISH WASHING COMPOUNDS (see Cleaning Compounds, Dry)

DISINFECTANTS, CHLORINATED

American Oil & Disinfectant Co., 80 8th Ave., N. Y. 11
Ampion Corp., 42-02 5th St., Long Island City, N. Y.
Banner Chem. Prods. Co., 60 Elm St., Newark, N. J.
Barton Chemical Co., 3909 S. Langley Ave., Chicago
Blockson Chem. Co., Joliet, Ill.
Chemical Compounding Corp., 262 Huron St., Brooklyn
Chem. Service Co. of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
Cole Laboratories, 22-19 37th Ave., L. I. City, N. Y.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Goulard & Olena, Inc., Skillman, N. J.
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco, Calif.
Arnold Hoffman Co., Providence, R. I.
R. M. Hollingshead Corp., Camden, N. J.
Hooker Electrochemical Co., Niagara Falls, N. Y.
Hunt Mfg. Co., Lisbon Rd., Cleveland
Hysan Products Co., 932 W. 38th Place, Chicago
Imperial Prods. Co., 1600 Fontain St., Phila.
John Wiley Jones Co., Caledonia, N. Y.
Mathieson Chemical Corp., 60 E. 42nd St., N. Y.
Midland Labs., Dubuque, Iowa
Monsanto Chemical Co., 1700 E. 2nd St., St. Louis
North Coast Soap & Chem. Works, Seattle, Wash.
Peck's Products Co., 610 E. Clarence Ave., St. Louis 15
Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila.
Puritan Chem. Co., Atlanta, Ga.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Rulon Laboratories, Bryant Bldg., Kansas City
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Sherwin-Williams Co., 601 Canal Rd., Cleveland
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U. S. Sanitary Specialties Corp., 1001 S. California Blvd., Chicago 12
Universal Chlorinator Co., 3418 W. Pico Blvd., Los Angeles
Victory Chem. Co., 148 Fairmount Ave., Phila.
James Varley & Sons, 1200 Switzer Ave., St. Louis
G. H. Wood & Co., Toronto, Ont., Canada
Wyandotte Chemicals Corp,. Wyandotte, Mich.

DISINFECTANTS, QUATERNARY AMMONIUM (See also Quaternary Ammonium Compounds)

Alrose Chem. Co., Box 1294, Providence, R. I.
American Oil & Disinfectant Co., 80 8th Ave., N. Y. 11
Baird & McGuire, Inc., Holbrook, Mass.
Boston Chemical Industries, 64 E. Brookline, Boston
Chemical Mfg. & Dist. Co., Easton, Pa.
Chem. Service Co. of Balto., Howard & West Sts., Balto.
Carlstadt Chem. Co., Carlstadt, N. J.
Chicago San. Prods. Co., 3100 S. Throop St., Chicago 8
Clarkson Co., 919 N. 9 St., Phila. 23
Cowles Chemical Co., 7016 Euclid Ave., Cleveland 3
E. I. du Pont de Nemours & Co., Wilmington, Dela.
Emulsol Corp., 59 E. Madison St., Chicago
Fairfield Labs., Inc., 417 Cleveland Ave., Plainfield, N. J.
Fine Organics, Inc., 211 E. 19th St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Hysan Products Co., 932 W. 38th Place, Chicago
Imperial Prods. Co., 1600 Fontain St., Phila.
Lorenz Chem. Co., 135 N. 32nd Ave., Omaha
Lynwood Co., 6115 S. Kenzie, Chicago
Nopco Chemical Co., Harrison, N. J.
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City 2
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Penna. Salt Mfg. Co., Widener Bldg., Phila. 7
Retardex Co., 1 Hanson Pl., Brooklyn
Rochester Germicide Co., 333 Hollenbeck St., Rochester 5, N. Y.
Rohm & Haas Co., 222 W. Washington Sq., Philadelphia
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago 10
Theo. Ross Associates, 835 W. Olympic Blvd., Los Angeles
E. B. Snyder Labs., 2137 E. Harold St., Philadelphia
Tech Soap Mfg. Co., 125 W. 46th Pl., Chicago
Trio Chemical Wks., Brooklyn 6
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
Universal Chlorinator Co., 3418 W. Pico Blvd., Los Angeles
U. S. Sanitary Specialties Corp., 1001 S. California Blvd., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis
Vestal, Inc., 4963 Manchester St., St. Louis 10
Winthrop-Stearns, Inc., 170 Varick St., N. Y. 13
G. H. Wood & Co., Toronto, Canada

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American Oil & Disinfectant Co., 80 8th Ave., N. Y. 11
Ampion Corp., 47-02 5th St., Long Island City, N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
Baird & McGuire, Inc., Holbrook, Mass.
Boston Chemical Industries, 64 E. Brookline St., Boston
Bri-Test Prods. Corp., 845 E. 138th St., N. Y.
Buckingham Wax Co., Van Dam St. & Borden Ave., L. I. City, N. Y.
Samuel Cabot, Inc., 141 Milk St., Boston
Chemical Compounding Corp., 262 Huron St., Brooklyn
Chemical Mfg. & Dist. Co., Easton, Pa.
Chemical Service Co., Baltimore, Md.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Click Chemical Corp., 41 Morrell St., Brooklyn 6
Clifton Chemical Co., 62 William St., N. Y.
Cole Laboratories 22-19 37th Ave, L. I. City, N. Y.
Corn King Co., Cedar Rapids, Ia.
Wm. Cooper & Nephews, 1909 Clifton Ave., Chicago
Creco Co., Inc., Creco Bldg., Long Island City, N. Y.
Crosby Chemicals, Inc., De Ridder, La.
Crystal Soap & Chem. Co., 6300 State Rd., Phila.
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Gaylord Chem. Co., 701 Woodswether Rd., Kansas City
James Good, Inc., 2116 E. Susquehanna Ave., Phila.
Haag Laboratories, Inc., 140th and Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Phila.
Higley Chem. Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Arnold Hoffman Co., Providence, R. I.
R. M. Hollingshead Corp., Camden, N. J.
James Huggins & Son, 239 Medford St, Malden, Mass.
Hunt Mfg. Co., Lisbon Rd., Cleveland
Hysan Products Co., 932 W. 38th Place, Chicago.
Imperial Prods. Co., 1600 Fountain St., Phila.
Klix Chem. Co., 2460 Third St., San Francisco
Koppers Co., White Tar Div., Kearny, N. J.
Manhattan Kreole Prods., 172 N. 10th St., Brooklyn
Merck & Co., Rahway, N. J.
Midland Labs., Dubuque, Iowa
National Sawdust Co., 69 N. 6th St., Bklyn.
N. Y. Soap Co., 258 Third St., Brooklyn
Oil-Kraft, Inc, 3330 Beekman St., Cincinnati
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Puritan Chem. Co., Atlanta, Ga.
Riverside Chem Co., N. Tonawanda, N. Y.
Theo. B. Robertson Prods. Co., 700 W Division St., Chicago
Rochester Germicide Co., 333 Hollenbeck St., Rochester 5, N. Y.
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Savin Products Co., 1221 Dorchester Ave., Boston 25
Sherwin-Williams Co., 601 Canal Rd., Cleveland, Ohio
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Solshine Mfg. Co., 412—2nd St., Fall River, Mass.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
John T. Stanley Co., 642 W. 30th St., N Y
Superior Soap Corp., 121 Nostrand Ave., Brooklyn
Tech. Soap Mfg. Co., 125 W. 46th Pl., Chicago
Tesco Chem. Co., P. O Box 4748, Atlanta
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Texol Chem. Wks., 75 Ward St., Worcester, Mass.
Trio Chem. Wks., 34 Scholes St., Bklyn.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
James Varley & Sons, 1200 Switzer Ave., St. Louis
Vliet & Co., 638 Monroe St., Brooklyn
T. F. Washburn Co., 2244 Elston Ave., Chicago
West Disinfecting Co., Long Island City, N. Y.
G. H. Wood & Co., Toronto, Canada
York Chemical Co., 23 Dean St., Bklyn.

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Alrose Chem. Co., Box 1294, Providence, R. I.
Baird & McGuire, Inc., Holbrook, Mass.
Berje Prods. Co., 616 W. 44th St., N. Y. 18
Carlstadt Chem. Co., Carlstadt, N. J.
Chem. Mfg. & Dist. Co., Easton, Pa.
Chemical Service Co., Baltimore
Emulsol Corp., 59 E. Madison St., Chicago
Fuld Bros., 702 S. Wolfe St., Baltimore
Fine Organics, Inc., 211 E. 19th St., N. Y.
Higley Chem. Co., Dubuque, Ia.
R. M. Hollingshead Corp., Camden, N. J.
Hysan Products Co., 932 W. 38th Place, Chicago
Imperial Prods. Co., 1600 Fontain St., Phila. 21
Koppers Co., White Tar Div., Kearny, N. J.
Miranol Chemical Co., P. O. Box 118, Milltown, N. J.
Monsanto Chem. Co., 1700 S. 2nd St., St. Louis
Peck's Prods. Co., 610 E. Clarence St., St. Louis
Puritan Chem. Co., Atlanta, Ga.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago 10
Rohm & Haas Co., 222 W. Washington Sq., Phila. 5
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
E. B. Snyder Labs., 2137 E. Harold St., Philadephia
Texol Chem. Wks., 75 Ward St., Worcester, Mass.
Trio Chemical Wks., 341 Scholes St., Brooklyn 6
U. S. Sanitary Specialties Corp., 1001 California Blvd., Chicago 12
Uncle Sam Chem. Co., 575 W. 131st St., New York
James Varley & Sons, 1200 Switzer Ave., St. Louis
Vestal, Inc., 4963 Manchester St., St. Louis 10
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DISINFECTANTS, COEFFICIENT TESTS (see Laboratories)

DISPENSERS, LIQUID SOAP (see Soap Dispensers)

DISSEMINATORS, PERFUME (see Perfume Disseminators)

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Fuld Bros., 702 S. Wolfe St., Baltimore
Hammond Paint & Chem. Co., Beacon, N. Y.
Hysan Products Co., 932 W. 38th Place, Chicago.
Imperial Prods. Co., 1600 Fontain St., Phila.
Midway Chemical Co., 5235 W. 65th St., Chicago
Sparhawk Co., Sparkill, N. Y.
Tobacco By-Products & Chem. Corp., Louisville, Ky.
Trio Chem. Wks., 341 Scholes St., Bklyn.
U. S. Sanitary Specialties Corp., 1001 S. California Blvd., Chicago 12
Whitmire Res. Labs., 339 S. Vandeventer, St. Louis

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Chem. Service Co. of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
Cole Laboratories, 22-19—37th Ave., L. I. City, N. Y.
Creco Co., Inc., Creco Bldg., Long Island City, N. Y.
Elkay Products Co., 323 W. 16th St., N. Y.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Gaylord Chem. Co., 701 Woodswether Rd., Kansas City
James Good, Inc., 2116 E. Susquehanna Ave., Phila.
Goulard & Olena, Inc., Skillman, N. J.
Hercules Chem. Co., 332 Canal St., New York
Higley Chemical Co., Dubuque. Ia.
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Arnold Hoffman Co., Providence, R. I.
R. M. Hollinghead Corp., Camden, N. J.
Hubman Supply Co., 225 N. 4th St., Columbus, O.
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Industrial Labs., 17-19 W. Conway St., Baltimore
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
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Fuld Bros., 702 S. Wolfe St., Baltimore
Garnet Chem. Corp., 911 N. Lumber St., Allentown, Pa.
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Hysan Products Co., 932 W. 38th Place, Chicago
Rochester Germicide Co., 333 Hollenbeck St., Rochester 5, N. Y.
Geo. B. Robbins Dis. Co., 42 Charlton St., Boston
Uncle Sam Chem. Co., 573 W. 131st St. N. Y.
U. S. Sanitary Specialties Corp., 1001 S. California Blvd., Chicago 12
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Banner Chem. Prods. Co., 60 Elm St., Newark 5
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Beach Soap Co., Lawrence, Mass.
Chemical Mfg. & Dist. Co., Easton, Pa.
Chem. Service Co. of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
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Eagle Soap Corp., Huntington, Ind.
J. Eavenson & Sons, Del & Penn Sts., Camden, N. J.
Fuld Bros., 702 S. Wolfe St., Baltimore
Haag Laboratories, Inc., 140th and Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce and Orthodox Sts., Phila.
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Hysan Prods. Co., 932 W. 38th Place, Chicago
H. Kohnstamm & Co., 91 Park Pl., N. Y.
Kearny Mfg. Co., Kearny, N. J.
Lorenz Chem. Co., 135 N. 32nd Ave., Omaha
Los Angeles Soap Co., 617 E. 1st St., Los Angeles
Midland Chem. Labs., Dubuque. Ia.
Nopco Chemical Co., Harrison, N. J.
North Coast Chem. & Soap Wks., Seattle, Wash.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Penna. Salt Mfg. Co., Widener Bldg., Phila. 7
Puritan Soap Co., 573 Lyell Ave., Rochester, N. Y.
Riverside Mfg. Co., 4919 Conn St., St. Louis
E. B. Snyder Labs., 2137 E. Harold St., Phila., 25
John T. Stanley Co., 642 W. 30th St., N. Y.
R. R. Street & Co., 561 W. Monroe St., Chicago
Swift & Co., Chicago
Texas Soap Mfg. Corp., 4905 Calhoun, Houston
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Ultra Chem. Wks., Inc., 2 Wood St., Paterson, N. J.
U. S. Sanitary Specialties Corp., 1001 S. California Blvd., Chicago 12
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
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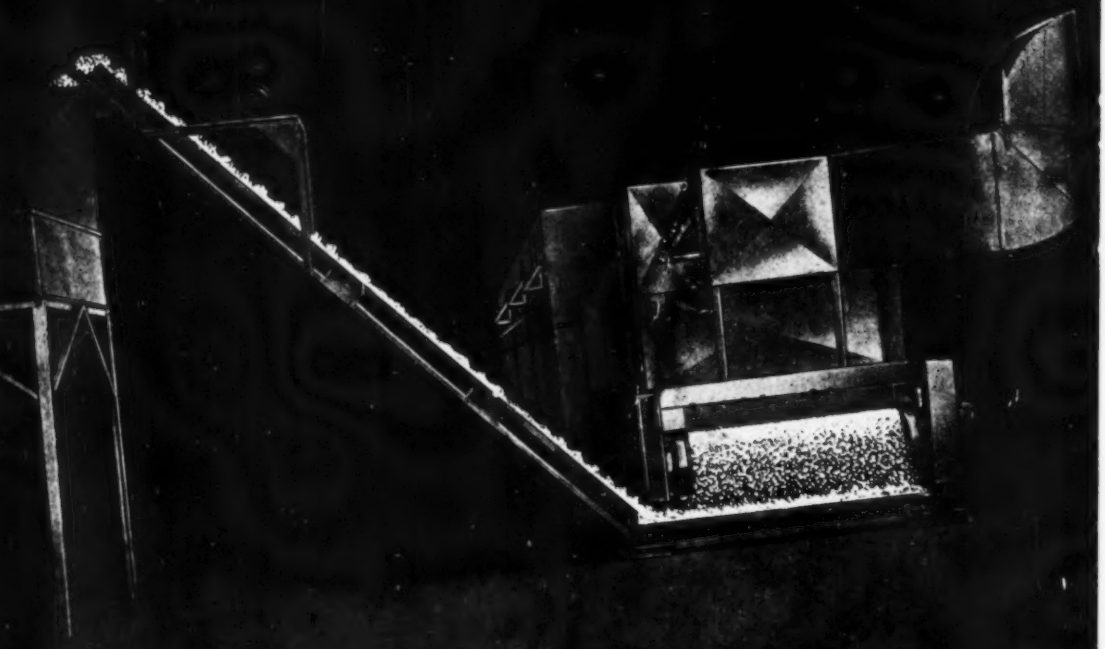
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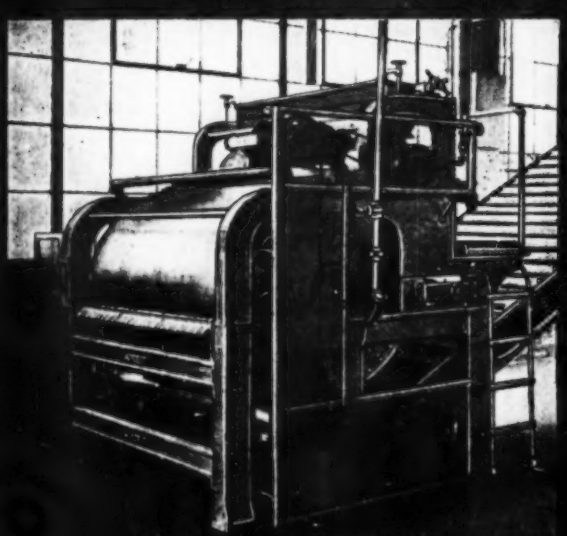
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Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
Drying Systems, Inc., 1800 Foster Ave., Chicago
Ellis Dryer Co., 2444 N. Pulaski Ave., Chicago
B. F. Gump Co., 431 S. Clinton St., Chicago
Houchin Machinery Co., Hawthorne, N. J.
Industrial Process Engineers, 8 Lister Ave., Newark 5, N. J.
Lancaster Iron Works, Lancaster, Pa.
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Ernest Scott & Co., Fall River, Mass.
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Western Precipitation Corp., 1016 W. 9th St., Los Angeles

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Owens-Corning-Fiberglas Corp., Toledo, Ohio
Pangborn Corp., 10 Pangborn Blvd., Hagerstown, Md.
Pulverizing Machine Company, Summit, New Jersey
Sprayer Corp. of America, 5100 N. Ravenswood Ave., Chicago
W. W. Sly Mfg. Company, Cleveland, Ohio
Torit Mfg. Co., 8301 S. Vernon Ave., Chicago
Western Precipitation Corp., Los Angeles, California

DUST PANS

Atlas Prods. Co., 9239 S. Houston Ave., Chicago 17
A. Kreamer, Inc., 307 Kent Ave., Brooklyn
F. H. Lawson Co., Cincinnati
National Can Corp., 110 E. 42nd St., N. Y.
Palmer Fixture Co., Waukesha, Wisc.
White Mop Wringer Co., Fultonville, N. Y.

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Golden Star Polish Mfg. Co., 2901 E. 13th St., Kansas City, Mo.
Hoag Duster Co., 200 Church St., N. Y.
Illinois Duster & Brush Co., 1944 Webster Ave., Chicago
Rubon Woodfinishing & Prods. Co., 500 W. 7th St. Kansas City, Mo.
P. R. Schuman Duster Co., 65 E. 53rd St., Brooklyn
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Antara Prods., 444 Madison Ave., N. Y.
Arabol Mfg. Co., 110 E. 42nd St., N. Y.
Armour & Co., 1355 W. 31st St., Chicago
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Atlas Powder Co., Wilmington, Del.
Borne Scrymser Co., 632 S. Front St., Elizabeth, N. J.
Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Commercial Solvents Corp., 17 E. 42nd St., N. Y.
Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
E. I. du Pont de Nemours & Co., Wilmington, Del.
El Dorado Oil Wks., 311 California St., San Francisco 4
Emery Industries, Inc., 4300 Carew Tower, Cincinnati
Emulsol Corp., 59 E. Madison St., Chicago
Enjay Co., 15 W. 51st St., N. Y. 19
General Dyestuff Corp., 435 Hudson St., N. Y.
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y.
Griffin Chem. Co., 1000—16th St., San Francisco
W. C. Hardesty Co., 41 E. 42nd St., N. Y.
Hercules Powder Co., Wilmington, Dela.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Kearny Mfg. Co., Kearny, N. J.
Kessler Chem. Co., 7272 State Rd., Phila.
Mackenzie Laboratories, Front & Yarnall Sts., Chester, Pa.
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y. 13
N. I. Malmstrom & Co., 147 Lombardy St., Bklyn.
M. Michel & Co., 90 Broad St., N. Y.
Miranol Chemical Co., 16 Melville Pl., Irvington, N. J.
Maywood Chemical Works, Maywood, N. J.
Monsanto Chem. Co., 1700 S. 2nd St., St. Louis
Nopco Chemical Co., Harrison, N. J.
Natural Minerals Co., 108 W. 6th St., Los Angeles
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City 2
Orbis Products Corp., 215 Pearl St., N. Y.
Oronite Chem. Co., 200 Bush St., San Francisco
S. B. Penick & Co., 50 Church St., N. Y.
Pennsylvania Refining Co., Butler, Pa.
Petroleum Specialties, Inc., 400 Madison Ave., N. Y.
Philadelphia Quartz Co., Public Ledger Bldg., Independence Sq., Phila. 6
Protean Chemical Corp., 150 Nassau St., N. Y. 7
Pylam Products Co., 799 Greenwich St., N. Y.
Quaker Chem. Prods. Co., Conshohocken, Pa.
Refined Products Corp., Page & Newkirk Ave., Lyndhurst, N. J.
Robinson Wagner Co., 110 E. 42nd St., N. Y.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Rumford Chem. Division, Rumford, R. I.
Sandoz Chemical Works, Inc., 61 Van Dam St., N. Y.
Seaboard Distributors, 60 Park Pl., Newark, N. J.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Stanco Distributors, Inc., 216 W. 14th St., N. Y.
Van Dyk Co., Belleville, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
R. T. Vanderbilt Co., 230 Park Ave., N. Y.
Warwick Wax Co., 10-10 44th Ave., L. I. C., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.
Woburn Chemical Corp., Harrison, N. J.
Jacques Wolfe & Co., Passaic, N. J.
Wyandotte Chemicals Corp., Wyandotte, Mich.

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Van Ameringen-Haebler, Inc., 315—4th Ave., N. Y.
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Aroscent, Inc., 58 Underhill Ave., Brooklyn 17
Bendix Chem. Corp., 420 Lexington Ave., N. Y.
Berje Prods. Co., 616 W. 44th St., N. Y. 18
W. J. Bush & Co., 11 E. 38th St., N. Y.
Bush Aromatics, Inc., 136 Liberty St., N. Y.
Centflor Mfg. Co., 450 W. 31st St., N. Y. 1
Ph. Chaleyer, Inc., 160 E. 56th St., N. Y.
Antoine Chiris Co., Inc., 119 W. 57th St., N. Y.
Compagnie Parento, Inc., Croton-on-Hudson, N. Y.
Consumers Import Co., 350 Fifth Ave., N. Y.
Crosby Chemicals, Inc., De Ridder, La.
Dodge & Olcott Inc., 180 Varick St., N. Y.
P. R. Dreyer, Inc., 117½ W. 19th St., N. Y.
A. C. Drury & Co., 219 East North Water St., Chicago
Enco Chem. Corp. 441 Lexington Ave., N. Y.
Felton Chemical Co., 603 Johnson Ave., Brooklyn
Firmenich & Co., 250 W. 18th St., N. Y.
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Schimmel & Co., 601 W. 26th St., N. Y.
Edwin Seebach Co., 912 Broadway, N. Y.
Seeley & Co., 136 Liberty St., N. Y.
Wm. G. Sibbach & Co., 210 S. 2nd Ave., Maywood, Ill.
Southwest Cedar Oil Co., P. O. Box 1939, San Antonio, Texas
Sparhawk Co., Sparkill, N. Y.
Synfleur Scientific Labs., Monticello, N. Y.
A. M. Todd Co., Kalamazoo, Mich.
Tombarel Products Corp., 12 E. 22nd St., N. Y.
Ungerer & Co., 161 Sixth Ave., N. Y.
Van Dyk & Co., Belleville, N. J.
Albert Verley, Inc., 440 W. Superior St., Chicago
Verona Chem. Co., 26 Verona Ave., Newark, N. J.

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ETHER

Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
J. T. Baker Chem. Co., Phillipsburg, N. J.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Enjay Co., 15 W. 51st St., N. Y.
Mallinckrodt Chem. Wks., 3600 N. 2nd St., St. Louis
Merck & Co., Rahway, N. J. (also Petroleum)
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
U. S. Industrial Chem. Co., 60 E. 42nd St., N. Y.

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ETHYLENE DICHLORIDE (see Solvents, Organic)

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Chemical Equipment Co., Montpelier, Ind.
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
Edge Moor Iron Wks., Edge Moor, Del.
First Machy. Corp., 157 Hudson St., N. Y. (Used)
William Garrigue & Co., 9 S. Clinton St., Chicago
Houchin Machy. Co., Hawthorne, N. J.
Lancaster Iron Works, Lancaster, Pa.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St.
Pfaudler Co., Rochester, N. Y.
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DOUBLE DISTILLED COTTONSEED FATTY ACIDS

Titer	37°C.
Neutralization Value	200
Iodine Value (Wijs)	105
Color	5 FAC

DOUBLE DISTILLED CORN OIL FATTY ACIDS

Titer	30°C.
Neutralization Value	199
Iodine Value (Wijs)	110
Color	5 FAC

DOUBLE DISTILLED SOYBEAN FATTY ACIDS

Titer	24°C.
Neutralization Value	198
Iodine Value (Wijs)	135
Color	5 FAC

DOUBLE DISTILLED COCONUT FATTY ACIDS

Titer	28°C.
Neutralization Value	254
Iodine Value (Wijs)	12
Color	1 FAC

DOUBLE DISTILLED ANIMAL FATTY ACIDS

Titer	40°C.
Neutralization Value	197
Iodine Value (Wijs)	60
Color	5 FAC

NEO-FAT 3 (Mixed Oleic-Linoleic Acids)

Titer	23°C.
Neutralization Value	198
Iodine Value (Wijs)	120
Color	8 FAC

NEO-FAT S-142 (Fractionated Tall Oil Acids)

Titer	below 20°C.
Neutralization Value	190
Iodine Value (Wijs)	130
Color	8 FAC
Oleic-Linoleic Acids	approx. 86%
Rosin Acids	approx. 14%

NEO-FAT D-242
(Low-cost Fatty Acid and Rosin Acid Mixture)

Neutralization Value	175
Color	10 FAC
Oleic-Linoleic Acids	approx. 30%
Rosin Acids	approx. 70%

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Garden City Fan Co., 332 S. Michigan, Chicago
General Regulator Corp., 711 W. Lake St., Chicago
Graybar Electric Co., 180 Varick St., N. Y.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago

FAT SPLITTING REAGENTS

Alrose Chem. Co., Box 1294, Providence, R. I.
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Emery Industries, Inc., Carew Tower, Cincinnati
Griffin Chem. Co., 1000 16th St., San Francisco
W. C. Hardesty Co., 41 E. 42nd St., N. Y.
Oronite Chem. Co., 200 Bush St., San Francisco
Pennsylvania Refining Co., Butler, Pa.
Petroleum Specialties, Inc., 400 Madison Ave., N. Y.
Sherwood Petroleum Co., Englewood, N. J.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Stanco Distributors, Inc., 216 W. 14th St., N. Y.
Standard Oil Co. (Ind), 910 S. Michigan Ave., Chicago

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Armour & Co., 1355 W. 31st St., Chicago
Arnold, Hoffman & Co., Providence, R. I.
Emery Industries, Carew Tower, Cincinnati 2
El Dorado Oil Wks., 311 Cal. St., San Francisco 4 Calif.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y. 18
Kessler Chemical Co., Philadelphia 35
Woburn Chemical Corp., Kearny, N. J.

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(see also Brokers and Dealers)

Archer-Daniels-Midland Co., Minneapolis
Armour Chem. Div., Armour & Co., 1355 W. 31st St., Chicago
Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Celina Stearic Acid Co., Celina, Ohio
Concord Chem. Co., Independence Sq., Phila.
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Darling & Co., 4201 So. Ashland Ave., Chicago
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Durkee Famous Foods, Inc., 2670 Elston Ave., Chicago
Eastern Industries, Inc., Ridgefield, N. J.
El Dorado Oil Wks., 311 California St., San Francisco
Griffin Chem. Co., 1000 16th St., San Francisco
Emery Industries Inc., 4300 Carew Tower, Cincinnati
General Mills, Chemical Div., 400 2nd Ave., Minneapolis
A. Gross & Co., 295 Madison Ave., N. Y.
Otto A. C. Hagen Corp., 929 Public Ledger Bldg., Phila.
W. C. Hardesty Co., 41 E. 42nd St., N. Y.
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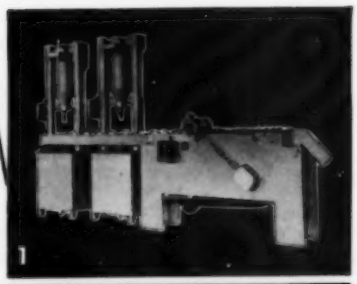
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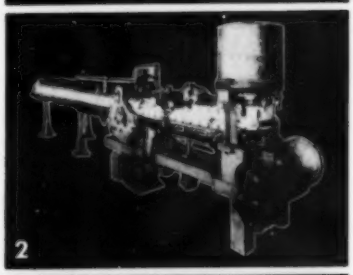
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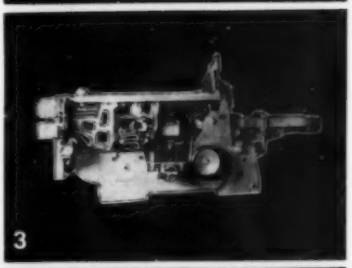
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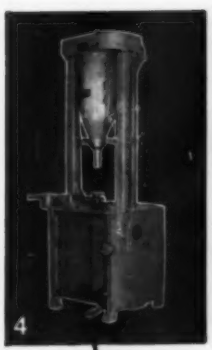
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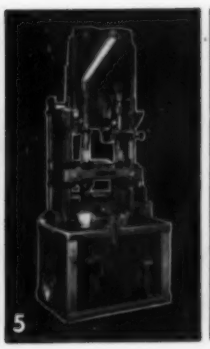
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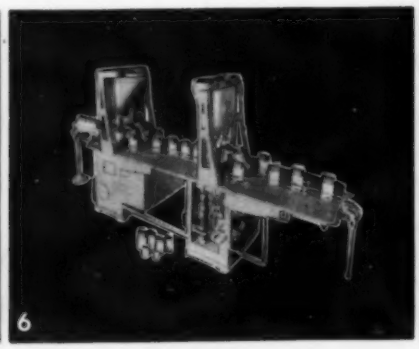

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Welch, Holme & Clark Co., 439 West St., N. Y.
M. Werk Co., Bernard St., Cincinnati
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Woburn Chemical Corp., Harrison, N. J.

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N. I. Malmstrom & Co., 147 Lombardy St., Bklyn, N. Y.
M. Michel & Co., 90 Broad St., N. Y.
F. Ritter & Co., 4641 Hollywood Ave., Los Angeles 27
Robinson Wagner Co., 110 E. 42nd St., N. Y.
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Welch, Holme & Clarke Co., 439 West St., N. Y.
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Consolidated Packaging Machy, Corp., 1400 West Ave., Buffalo
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First Machy, Corp., 157 Hudson St., N. Y. (Used)
General Mills, Inc., 1620 Central Ave., NE, Minneapolis, Minn.
Horix Mfg. Co., Pittsburgh
Hornney & Co., 420 Lexington Ave., N. Y.
Karl Kiefer Machine Co., 919 Martin St., Cincinnati
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Mandel Products, 207 Astor St., Newark, N. J.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Packer Machinery Corp., 30 Irving Pl., N. Y.
Pfaudler Co., Rochester, N. Y.
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Scientific Filter Co., 2 Franklin Sq., N. Y. 10
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Alsop Engineering Corp., 103 Green St., Milldale, Conn.
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Chemical & Process Machy. Corp., 146 Grand St., N.Y. 13 (Used)
Clevon Products Co., 27-31 Mechanic St., Buffalo
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
Filter Paper Co., 2464 N. Michigan Ave., Chicago
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Hornney & Co., 420 Lexington Ave., N. Y.
M. R. M. Co., 191 Berry St., Bklyn.
Mandel Products, 207 Astor St., Newark, N. J.
National Acme Co., E. 131st St. & Coit Ave., Cleveland
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Packer Machinery Corp., 30 Irving Pl., N. Y.
Geo. G. Rodgers Co., 225 W. 34th St., N. Y.
Scientific Filter Co., 2 Franklin Sq., N. Y. 10
Stein Equipment Co., 90 West St., N. Y. (Used)

FILLING MACHINERY (for Pastes, Cans)

Allied Steel & Equipt. Co., Chester, N. J.
Chemical & Process Machy. Corp., 146 Grand St., N. Y. 13 (Used)
Clevon Products Co., 27-31 Mechanic St., Buffalo
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
J. L. Ferguson Co., Joliet, Ill.
Filler Machine Co., 1250 E. Montgomery St., Phila.
Filter Paper Co., 2464 N. Michigan Ave., Chicago
First Machy, Corp., 157 Hudson St., N. Y. (Used)
Hornney & Co., 420 Lexington Ave., N. Y.
Karl Kiefer Machine Co., 919 Martin St., Cincinnati
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Pfaudler Co., Rochester, N. Y.
Progressive Eng. Co., Torresdale, Pa.
Geo. G. Rodgers Co., 225 W. 34th St., N. Y.
Scientific Filter Co., 2 Franklin Sq., N. Y. 10
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Sprague-Sells Corp., 308 W. Washington St., Chicago
Stein Equipment Co., 90 West St., N. Y. (Used)
Stokes & Smith Co., 4915 Summerdale Ave., Phila.
F. J. Stokes Machine Co., 5918 Tabor Rd., Philadelphia
Triangle Package Machy. Co. 6633 W. Diversey Blvd. Chicago
U. S. Bottlers Machy. Co., 4015 N. Rockwell St., Chicago
Vol-U-Meter Co., 707 Ohio St., Buffalo, N. Y.
Weigh Right Automatic Scale Co., Joliet, Ill.

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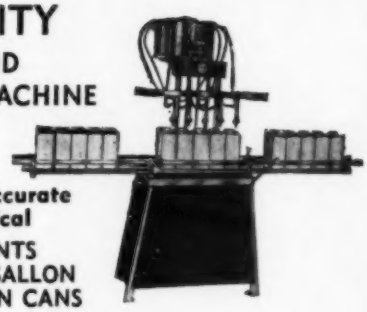
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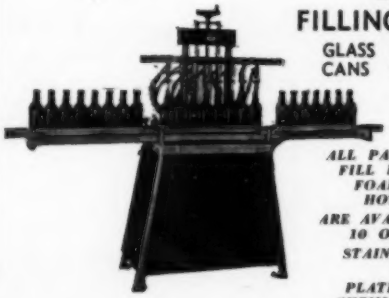


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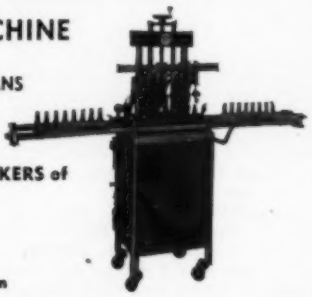
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First Machy. Corp., 157 Hudson St., N. Y. (Used)
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Geo. G. Rodgers Co., 225 W. 34th St., N. Y.
Stokes & Smith Co., 4915 Summerdale Ave., Phila.

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Allied Steel & Equipt. Co., Chester, N. J.
Clevon Products Co., 27-31 Mechanic St., Buffalo
Arthur Colton Co., Detroit, Mich.
Consolidated Prod. Co., 15 Park Row, N. Y. (Used)
Filter Paper Co., 2464 S. Michigan Ave., Chicago
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Karl Kiefer Machine Co., 919 Martin St., Cincinnati
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Geo. G. Rodgers Co., 225 W. 34th St., N. Y.
Scientific Filter Co., 2 Franklin Sq., N. Y. 10
Stein Equipment Co., 90 West St., N. Y. (Used)
F. J. Stokes Machine Co., 5918 Tabor Rd., Philadelphia

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Allied Steel & Equipt. Co., Chester, N. J.
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Brown Bag Filling Machy. Co., Fitchburg, Mass.
Chem. & Process Machy. Corp., 146 Grand St., N. Y. 13 (Used)
Consolidated Package Machinery Corp., 1400 West Ave., Buffalo, N. Y.
Consolidated Prod. Co., 15 Park Row, N. Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
J. L. Ferguson Co., Joliet, Ill.
First Machy. Corp., 157 Hudson St., N. Y. (Used)
B. F. Gump Co., 412 S. Clinton St., Chicago
S. Howes Co., Silver Creek, N. Y. (Bbls.)
Johnson Automatic Sealer Co., Battle Creek, Mich.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., North Quincy, Mass.
F. B. Redington Co., 112 S. Sangamon St., Chicago
Geo. G. Rodgers Co., 225 W. 34th St., N. Y.
A. H. Ross & Co., P. O. Box 998, Dayton, Ohio
Stein Equipment Co., 90 West St., N. Y. (Used)
Sprout, Waldron & Co., Muncy, Pa.
F. J. Stokes Mach. Co., 5918 Tabor Rd., Philadelphia
Stokes & Smith Co., 4915 Summerdale Ave., Phila.
Triangle Package Machinery Co., 6633 W. Diversey Ave., Chicago
U. S. Automatic Box Mchy. Co., Roslindale, Boston, 31 Mass.
Weigh Right Automatic Scale Co., Joliet, Ill.

FILTER AIDS

American Colloid Co., 363 W. Superior St., Chicago
Atlantic Refining Co., 260 Broad St., Phila.
Attapulgus Clay Co., 210 W. Washington Sq., Phila.
Carbide & Carbon Chem. Corp., 30 E. 42nd St., New York
Dicalite Div., Great Lakes Carbon Corp., 756 S. Broadway, Los Angeles 14
Filter Paper Co., 2464 S. Michigan Ave., Chicago
Fitrol Corp., 634 S. Spring St., Los Angeles
Industrial Chem. Sales Div., West Va. Pulp and Paper Co., 230 Park Ave., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Johns-Manville Corp., 22 East 40th St., New York
Peerless Clay & Mineral Co., Pueblo, Colo.
Scientific Filter Co., 2 Franklin Sq., N. Y. 10
Westvaco Chem. Div., Food Machy. & Chem. Corp., 405 Lexington Ave., N. Y. 17

FILTER CLAYS (see Clays; see Filter Aids.)

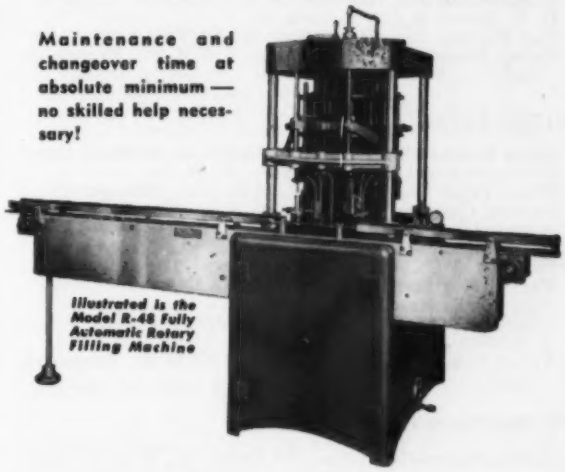
FILTER CLOTHS

Abbott Associates, 417 Park Sq. Bldg., Boston
Alsop Engineering Corp., 103 Green St., Milldale, Conn.

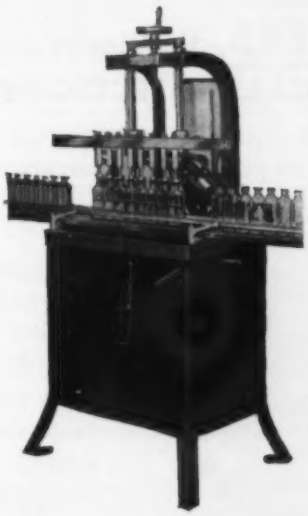
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Hornney & Co., 420 Lexington Ave., N. Y.
Independent Filter Press Co., 189 Seventh St., Brooklyn
National Filter Cloth & Weaving Co., 220 E. 42nd St., N. Y.
Newark Wire Cloth Co., 223 Verona Ave., Newark, N. J.
Oliver United Filters, Inc., 33 W. 42nd St., N. Y.
J. T. Perkins Co., 669 Kent Ave., Brooklyn
Wm. R. Perrin & Co., 349 W. 23rd St., Chicago
Satisfaction Supply Co., 508 W. Broadway, N. Y.
Scientific Filter Co., 2 Franklin Sq., N. Y. 10
T. Shriver & Co., Harrison, N. J.
D. R. Sperry & Co., Batavia, Ill.
Test Fabrics, Inc., 224 W. 35th St., N. Y.
Valley Foundry & Mach. Works, 710 H. St., Fresno 10, Calif.

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August Giese & Son, 121 E. 24th St., N. Y.
F. R. Hormann & Co., 186 Joralemon St., Brooklyn 2
Hornney & Co., 420 Lexington Ave., N. Y.
Karl Kiefer Machine Co., Cincinnati, O.
Palo Co., 81 Reade St., N. Y.
Scientific Filter Co., 2 Franklin Sq., N. Y. 10
T. Shriver & Co., Harrison, N. J.
Valley Foundry & Machine Works, 710 H. St., Fresno 10, Calif.

FILTER PRESSES

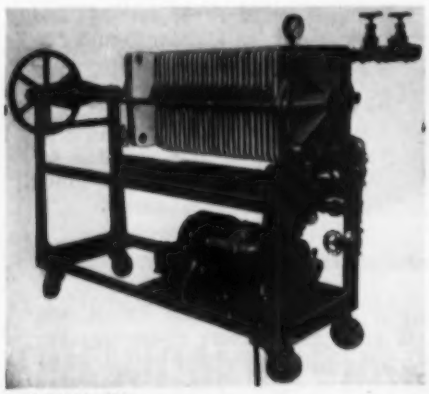
Alsop Engineering Corp., 103 Green St., Milldale, Conn.
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Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
Ertel Engineering Corp., Kingston, N. Y.
Filter Paper Co., 2426 S. Mich. Ave., Chicago
First Machy. Corp., 157 Hudson St., N. Y. (Used)
F. R. Hormann & Co., 186 Joralemon St., Brooklyn 2
Hornney & Co., 420 Lexington Ave., N. Y.
Independent Filter Press Co., 189 Seventh St., Brooklyn
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Oliver United Filters, Inc., 33 W. 42nd St., N. Y.
Patterson Foundry & Machine Co., East Liverpool, Ohio
Wm. R. Perrin & Co., 349 W. 23rd St., Chicago
Scientific Filter Co., 2 Franklin Sq., N. Y. 10
T. Shriver & Co., Harrison, N. J.
Sparkler Mfg. Co., 201 Lake St., Mundelein, Ill.
D. R. Sperry & Co., Batavia, Ill.
Stein Equipment Co., 90 West St., N. Y. (Used)
United Filters Corp., Hazelton, Pa.
Valley Foundry & Machine Works, 710 H St., Fresno 10, Calif.

FILTERS

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Alsop Engineering Corp., 103 Green St., Milldale, Conn.
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Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
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Ertel Engineering Corp., Kingston, N. Y.
Filter Paper Co., 2464 S. Michigan Ave., Chicago
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Foster Pump Wks., Inc., 54 Washington St., Brooklyn
F. R. Hormann & Co., 186 Joralemon St., Brooklyn 6
Jacob House & Sons, 52 St. Paul St., Buffalo
Karl Kiefer Machine Co., 919 Martin St., Cincinnati
Lancaster Iron Works, Lancaster, Pa.
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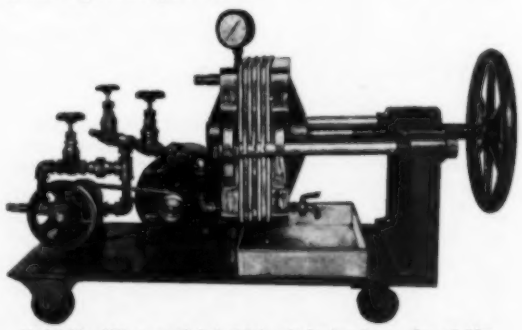
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Whiting Corp., Harvey, Ill.

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E. I. du Pont de Nemours & Co., Wilmington, Del.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good Co., Susquehanna Ave. & Martha St., Phila.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland 6
Imperial Prods. Co., 1600 Fontain St., Phila.
Mallinckrodt Chem. Wks., 2nd & Mallinckrodt Sts., St. Louis 7
Michigan Chemical Corp., St. Louis, Mich.
Miranol Chemical Co., 16 Melville Pl., Irvington, N. J.
Prior Chem. Corp., 420 Lexington Ave., N. Y.
E. B. Snyder Labs., 2137 E. Harold St., Philadelphia
Stauffer Chem. Co., 420 Lexington Ave., N. Y.
Stepan Chem. Co., 1353 N. Branch St., Chicago 22
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Onyx Oil & Chemical Co, Warren & Morris Sts., Jersey City 2
Per-Mo Products Co., 3604 Woodland Ave., Kansas City, Mo.
Price Fire & Water Proofing Co., Poughkeepsie, N. Y.
Protexol Corp., 32 Market St., Kenilworth, N. J.
Quaker Chem. Prods. Co., Conshohocken, Pa.
Victor Chemical Works, 141 West Jackson Bldg., Chicago

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Consumers Import Co., 350 Fifth Ave., N. Y.
Falk & Co., Pittsburgh
James Good Co., Susquehanna Ave. & Martha St., Phila.
Greene Trading Co., 60 Wall St., N. Y. 5 (Agents for Foreign Sellers)
Hooker Electrochemical Co., Niagara Falls, N. Y.
Murray Oil Products Co., 21 West St., N. Y.
Pacific Vegetable Oil Co., 62 Townsend St. San Francisco
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Swan Finch Oil Corp., 30 Rockefeller Plaza, N. Y.
Arthur C. Trask Co., 4103 S. La Salle St., Chicago
Welch, Holme & Clark Co., 439 West St., N. Y.
G. A. Wharry & Co., 95 Broad St., N. Y. 4

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R. M. Hollingshead Corp., Camden, N. J.
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Newell Gutradt Co., 350 Fremont St., San Francisco
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Welch, Holme & Clark Co., 439 West St., N. Y.

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Haskins Bros. & Co., Omaha
Hewitt Soap Co., Dayton, Ohio
Iowa Soap Co., Burlington, Iowa
Lightfoot Schultz Co., 663 Fifth Ave., N. Y.
Procter & Gamble Co., Cincinnati
Schmidt Soap Products Co., 236 W. North Ave., Chicago
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Chemical Compounding Corp., 262 Huron St., Bklyn.
Chemical Mfg. & Dist. Co., Easton, Pa.
Chem. Service Co. of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
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Clifton Chemical Co., 62 William St., N. Y.
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Davies-Young Soap Co., Dayton, O.
Eagle Soap Corp., Huntington, Ind.
Empire Chemical Prods. Co., 10 Longworth St., Newark
Federal Varnish Division, S. Ashland Ave. at 29th St., Chicago
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Hockwald Chemical Co., 135 Mississippi St., San Francisco
Hysan Prods. Co., 932 W. 38th Place, Chicago
Lewis Soap & Chem. Co., Oakland, Calif.
Midland Labs., Dubuque, Iowa
Multi-Clean Prods., 2277 Ford Pkway., St. Paul
Peck's Products Co., 610 E. Clarence Ave., St. Louis
Rex-Cleanwall Corp., Brazil, Ind.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Shawmut Specialty Co., 313 Centre St., Boston
Solshine Mfg. Co., 412—2nd St., Fall River, Mass.
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S. S. Stafford, Inc., 603 Washington St., N. Y.
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Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago
Trio Chemical Wks., 341 Scholes St., Bklyn. 6
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Twin City Shellac Co., 340 Flushing Ave., Brooklyn
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
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Amer. Floor Surfacing Mach. Co., Toledo, O.
Atlas Floor Surfacing Mach. Corp., 248 E. 34th St., N. Y.
Continental Car-Na-Var Corp., Brazil, Ind.
Electric Sprayit Co., Sheboygan, Wis.
Finnell System, Inc., Elkhart, Ind.
General Floorcraft Corp., 333 Sixth Ave., N. Y.
Hild Floor Machine Co., 1313 W. Randolph St., Chicago
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Kent Co., Rome, N. Y.
S. C. Lawlor Co., 122 N. Aberdeen St., Chicago
Lincoln-Schlueter Floor Machy. Co.,
220 W. Grand Ave., Chicago
Multi-Clean Prods., 2277 Ford Pkway., St. Paul
Ponsell Floor Machine Co., 220 W. 19th St., N. Y.
Rex-Cleanwall Corp., Brazil, Ind.
Vestal, Inc., 4963 Manchester St., St. Louis 10
G. H. Wood & Co., Toronto, Ont., Canada

FLOOR SCRAPERS and SANDERS

Atlas Floor Surfacing Mach. Corp., 248 E. 34th St., N. Y.
Churchill Mfg. Co., Galesburg, Ill.
Continental Car-Na-Var Corp., Brazil, Ind.
A. F. Dormeyer Mfg. Co., 4316 N. Kilpat'k St., Chicago
Greenview Mfg. Co., 2557 Greenview Ave., Chicago
Lincoln-Schlueter Floor Machy. Co.,
512 S. Peoria Ave., Chicago
Rex-Cleanwall Corp., Brazil, Ind.
White Mop Wringer Co., Fultonville, N. Y.

FLOOR SCRUB SOAPS (see also Potash Soaps)

Alexander Chem. Co., 511 Willoughby Ave., Bklyn. 6
American Soap & Washoline Co., Cohoes, N. Y.
Ampion Corp., 47-02—5th St., Long Island City, N. Y.
Antara Prods., 444 Madison Av., N. Y. 22
Armour & Co., 1355 W. 31st St., Chicago
Arrow Laboratories, 236 W. North Ave., Chicago
Banner Chem. Prods. Co., 60 Elm St., Newark, N. J.
Baum's Castorine Co., Rome, N. Y.
Boston Chemical Industries, 64 E. Brookline St., Boston
Bri-Test Prods. Corp., 845 E. 138th St., New York
Buckingham Wax Co., 51-03 Van Dam St., L. I. City, N. Y.
Candy & Co., 2515 W. 35th St., Chicago
Chemical Compounding Corp., 262 Huron St., Brooklyn
Chemical Mfg. & Dist. Co., Easton, Pa.
Chem. Service Co. of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chemical Co., 62 William St., N. Y.
Churchill Mfg. Co., Galesburg, Ill.
Cole Laboratories, 22-19 37th Ave., L. I. City, N. Y.
Continental Car-Na-Var Corp., Brazil, Ind.
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
Davies-Young Soap Co., Dayton, O.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Eagle Soap Corp., Huntington, Ind.
Empire Chem. Prods. Co., 12 Longworth Ave., Newark, N. J.
Franklin Research Co., 5134 Lancaster Ave., Phila.
Fuld Bros., 702 S. Wolfe St., Baltimore
Gaylord Chem. Co., 701 Woodswether Rd., Kansas City 6, Mo.
Gaskill Products, 9 S. Letitia St., Phila.
James Good, Inc., 2116 Susquehanna Ave., Phila.
Haag Laboratories, Inc., 140th and Seeley Ave., Blue Island, Ill.
Harley Soap Co, Pierce & Orthodox Sts., Philadelphia
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Knox-All Corp., 1005 E. Sumner Ave., Indianapolis
Kranich Soap Co., 60 Richards St., Brooklyn
Lanair Chem. Corp., 236 W. North Ave., Chicago
Lewis Soap & Chem. Co., 383 Seventh St., Oakland, Calif.
Lorenz Chem. Co., 135 N. 32nd Ave., Omaha
Los Angeles Soap Co., 617 E. 1st St., Los Angeles
M. & H. Laboratories, 2705 Archer Ave., Chicago
Midland Labs., Dubuque, Iowa
Multi-Clean Prods., 2277 Ford Pkwy., St. Paul
Mutual Chem. & Supply Co., 257 W. Gay St., Columbus, Ohio
Nopco Chem. Co., Harrison, N. J.
N. Y. Soap Co., 258 Third St., Brooklyn
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Oil-Kraft, Inc., 3330 Beekman St., Cincinnati
Piatt & Smillie Chemicals, 2329 Pine St., St. Louis 3
Procter & Gamble Co., Cincinnati
Puritan Chem. Co., Atlanta, Ga.
Puritan Soap Co., 573 Lyell Ave., Rochester, N. Y.
Rex-Cleanwall Corp., Brazil, Ind.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Rochester Germicide Co., 333 Hollenbeck St., Rochester 5, N. Y.
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Savin Products Co., 1221 Dorchester Ave., Boston 25
Schaeffer Mfg. Co., 102 Barton St., St. Louis
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
E. B. Snyder Labs., 2137 E. Harold St., Philadelphia
Solshine Mfg. Co., 412—2nd St., Fall River, Mass.
S. S. Stafford, Inc., 603 Washington St., N. Y.
John T. Stanley Co., 642 W. 30th St., N. Y.
Superior Soap Corp., 121 Nostrand Ave., Brooklyn
Swift & Co., Chicago
Tech. Soap Mfg. Co., 125 W. 46th Pl., Chicago
Texol Chemical Works, 75 Ward St., Worcester, Mass.
Thompson-Hayward Chem. Co., Kansas City, Mo.
Trio Chemical Wks., 341 Scholes St., Bklyn. 6
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Twi-Laq Chemical Co., 25 N. Portland Ave., Bklyn.
Ultra Chem. Wks., Box 1536, Paterson, N. J.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis
Vestal, Inc., 4963 Manchester St., St. Louis 10
T. F. Washburn Co., 2244 Elston Ave., Chicago
Windsor Wax Co., 611 Newark St., Hoboken, N. J.
G. H. Wood & Co., Toronto, Ont., Canada
Wyandotte Chemicals Corp., Wyandotte, Mich.

FLOOR WAXES

Alexander Chemical Co., 511 Willoughby Ave., Bklyn. 6
American Wax Co., 13-26 128th St., College Point, L. I.
Ampion Corp., 47-02—5th St., Long Island City, N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
Banner Chemical Products Co., 60 Elm St., Newark, N. J.
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Boston Chemical Industries, 64 E. Brookline St., Boston
Bri-Test Prods. Corp., 845 E. 138th St., New York
Buckingham Wax Corp., Van Dam St. & Borden Ave., L. I. City, N. Y.
Candy & Co., 2515 W. 35th St., Chicago
Cary Mfg. Co., 4586 Felton St., San Diego 4, Calif.
Chemical Service Co., Baltimore
Chemical Mfg. Dist. Co., Easton, Pa.
Chicago Sanitary Prods. Co., 3100 Throop St., Chicago
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
Continental Car-Na-Var Corp., Brazil, Ind.
Davies-Young Soap Co., Dayton, O.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eagle Soap Corp., Huntington, Ind.
Empire Chemical Prods. Co., 10 Longworth St., Newark, N. J.
Federal Varnish Division, S. Ashland Ave. at 29th St., Chicago
Franklin Research Co., 5134 Lancaster Ave., Phila.
Fuld Bros., 702 S. Wolfe St., Baltimore
Gaylord Chem. Co., 701 Woodswether Rd., Kansas City 6, Mo.
James Good, Inc., 2116 Susquehanna Ave., Phila.
Harley Soap Co., Pierce & Orthodox Sts., Phila.
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Arnold Hoffman Co., Providence, R. I.
R. M. Hollingshead Corp., Camden, N. J.
Hunt Mfg. Co., Lisbon Rd., Cleveland
Hysan Prods. Co., 932 W. 38th Place, Chicago
Imperial Prods. Co., 1600 Fontain St., Phila. 21
Jones Products, 167 Second St., Cambridge, Mass.
Knox-All Corp., 1005 E. Sumner Ave., Indianapolis
H. Krevit & Co., 11 Albert St., New Haven, Conn.

FLOOR WAXES (Contd.)

Lewis Soap & Chem. Co., 383 Seventh St., Oakland, Calif.
Manhattan Kreole Prods., 172 N. 10th St., Brooklyn
Midland Labs., Dubuque, Iowa
M. & H. Laboratories, 2703 Archer Ave., Chicago
Multi-Clean Prods., 2277 Ford Pkwy., St. Paul
Mutual Chem. & Supply Co., 257 W. Gay St., Columbus, Ohio
Oil Specialties & Refining Co., 18 Bridge St., Bklyn.
Oil-Kraft, Inc., 3330 Beekman St., Cincinnati
Peck's Prods., 610 E. Clarence Ave., St. Louis
Perrow Chemical Co., Hurt, Va.
Puritan Chem. Co., Atlanta, Ga.
Rex-Cleanwall Corp., Brazil, Ind.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Schaeffer Mfg. Co., 102 Barton St., St. Louis
Seaboard Distributors, 60 Park Pl., Newark, N. J.
Shawmut Specialty Co., 313 Centre St., Boston
Shell Oil Co., 50 W. 50th St., N. Y. 20
Shield-All Co., 99-18 43rd Ave., Corona, N. Y.
Slick-Shine Co., 207 Astor St., Newark, N. J.
E. B. Snyder Labs., 2137 E. Harold St., Phila. 25
Solshine Mfg. Co., 412—2nd St., Fall River, Mass.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
S. S. Stafford, Ind., 603 Washington St., N. Y.
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago
H. F. Staples Co., Medford, Mass.
Superior Soap Corp., 121 Nostrand Ave., Brooklyn
Texas Soap Mfg. Corp., 3905 Calhoun Rd., Houston
Texol Chem. Wks., 75 Ward St., Worcester, Mass.
Trio Chem. Wks., 341 Scholes St., Bklyn.
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Twi-Laq Chemical Co., 25 N. Portland Ave., Brooklyn
Vestal, Inc., 4963 Manchester St., St. Louis 10
Wyandotte Chemicals Corp., Wyandotte, Mich.
Twin City Shellac Co., 340 Flushing Ave., Brooklyn
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Specialties Corp., 1001 S. California Blvd., Chicago 12
Victory Chem. Co., 148 Fairmount Ave., Phila.
T. F. Washburn Co., 2244 Elston Ave., Chicago.
Wilco Co., 6800 McKinley Ave., Los Angeles
Windsor Wax Co., Inc., 611 Newark St., Hoboken, N. J.
G. H. Wood & Co., Toronto, Canada

FLOTATION OILS

Antara Prods., Div., Gen Aniline & Film Corp., 444 Madison Ave., N. Y.
Armour & Co., 1355 W. 31st St., Chicago
Atlantic Refining Co., 260 S. Broad St., Phila.
Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Cliffs Dow Chemical Co., Marquette, Mich.
Crosby Chemicals, Inc., DeRidder, La.
Darling & Co., 4201 S. Ashland Ave., Chicago
E. I. du Pont de Nemours & Co., Wilmington, Del.
Emery Industries, 4300 Carew Tower, Cincinnati
Glidden Co., Southern Pine Chem. Co., Div., Jacksonville, Fla.
A. Gross & Co., 295 Madison Ave., N. Y.
Hardwood Chemical Co., 2 Jersey St., Buffalo, N. Y.
Hercules Powder Co., Wilmington
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Koppers Co., Koppers Bldg., Pittsburgh, Pa.
National Aniline Div., Allied Chem & Dye Corp., 40 Rector St., N. Y.
Newport Industries, Inc., 230 Park Ave., N. Y.
Reilly Tar & Chemical Corp., Indianapolis, Ind.
Republic Chemical Co., 94 Beekman St., N. Y.
Sherwood Refining Co., Englewood, N. J.
L. Sonneborn Sons, Inc., 88 Lexington Ave., N. Y. C.
Tennessee Eastman Corp., Kingsport, Tenn.
Union Bag & Paper Corp., 233 Bdway, N. Y.
G. A. Wharry & Co., 95 Broad St., N. Y. 4
Woburn Chemical Corp., Harrison, N. J.

FLUORIDES

(see also Dealers)

Aluminum Co. of America, Gulf Bldg., Pittsburgh
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
American Fluoride Corp., 151 W. 19th St., N. Y.
Blockson Chemical Co., Joliet, Ill.
Croton Chem. Corp., 114 Liberty St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Foote Mineral Co., 1609 Summer St., Philadelphia
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 97th St., Cleveland
Innis, Speiden & Co., 117 Liberty St., N. Y.
Lindsay Light & Chem. Co., West Chicago, Ill.
Merck & Co., Rahway, N. J.
Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila.
Pfaltz & Bauer, 350 Fifth Ave., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Henry Sundheimer, Inc., 103 Park Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y. 14

FLYPAPER and RIBBONS

Russell Sales & Mfg. Co., 15 Park Row, N. Y.
R. E. Tongue & Bro., Alleghany and Amber Sts., Phila.

FLY SPRAYS (see Household Insecticide Sprays)

FOAMING AGENTS (see Saponin; also Detergents, Synthetic; also Wetting Agents)

FOOT BATHS (Rubber)

Stalwart Rubber Co., Bedford, O.
U. S. Rubber Co., Market & South Sts., Passaic, N. J.

FORMALDEHYDE

(see also Brokers and Dealers)

American-British Chemical Supplies, 180 Madison Ave., N. Y.
Celanese Corp., 180 Madison Ave., N. Y. 16
Cliffs-Dow Chem. Co., Marquette, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Wm. S. Gray Co., 342 Madison Ave., N. Y.
Harshaw Chemical Co., 1945 E. 97 St., Cleveland 6
Hercules Powder Co., Wilmington, Del.
Heyden Chem. Co., 393 7th Ave., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mallinckrodt Chemical Work, St. Louis, Mo.
Merck & Co., Rahway, N. J.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Solvay Sales Div., Allied Chemicals & Dye Corp., 40 Rector St., N. Y. 6
Jos. Turner & Co., Ridgefield, N. J.

FORMALDEHYDE CANDLES

Bauer & Black, Chicago
Cenol Co., 4250 N. Pulaski Ave., Chicago
Depree Chem. Co., Holland, Mich.

FRAMES (Soap)

Chemical & Process Machy. Corp., 146 Grand St., N. Y. 13 (Used)
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259 49th St., Brooklyn
Littleford Bros., 451 E. Pearl St., Cincinnati
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago
Stein Equipment Co., 90 West St., N. Y. (Used)

FULLERS EARTH

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Attapulgus Clay Co., 210 W. Washington Sq., Phila.
Chas B. Chrystal Co., 53 Park Pl., N. Y.
Filtrol Corp., 634 S. Spring St., Los Angeles
Floridin Co., 200 Liberty St., Warren, Pa.
Fullers Earth Co., 2049 E. 100th St., Cleveland
Hammill & Gillespie, 225 Broadway, N. Y.

FULLERS EARTH (Contd.)

Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Heckathorn & Co., Richmond, Calif.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Jas. H. Rhodes & Co., 157 W. Hubbard St., Chicago
Rosenthal Bercow, 25 E. 26th St., N. Y. 10
L. A. Salomon & Bro., 216 Pearl St., N. Y.
Sinclair Refining Co., East Chicago, Ind.
Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago
Tamms Silica Co., 228 N. La Salle St., Chicago
United Clay Mines Corp., 101 Oakland St., Trenton, N. J.
Chas. A. Wagner Co., 813 Callowhill St., Phila.
Welch, Holme & Clark Co., 439 West St., N. Y.
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y.

FUMIGANTS (Cyanides, Chlorpicrin, Methyl Bromide, etc.)

American-British Chem. Supplies, 180 Madison Ave., N. Y. 16
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Commercial Solvents Corp., 17 E. 42nd St., N. Y.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eston Chemicals, Inc., 3100 E. 26th St., Los Angeles
Innis, Speiden & Co., 117 Liberty St., N. Y.
Kay-Fries Chemicals, Inc., 180 Madison Ave., N. Y.
Mechling Bros. Chemical Co., Camden, N. J.
Michigan Chem. Corp., St. Louis, Mich.
Penn. Salt Mfg. Co., Widener Bldg., Phila.
Rohm & Haas Co., Inc., 222 W. Washington Sq., Philadelphia
Stauffer Chem. Co., 420 Lexington Ave., N. Y.
U. S. Industrial Chemicals, Inc., 60 E. 42nd St., N. Y.
Westvaco Chem. Div., Food Machy. & Chem. Corp., 405 Lexington Ave., N. Y.
Wyandotte Chem. Corp., Wyandotte, Mich.

GAS MASKS

Davis Emergency Equip. Co., 43 Halleck St., Newark, New Jersey
Mine Safety Appliances Co., Braddock, Thomas & Meade Sts., Pittsburgh, Pa.

GAUGES (see Instruments)

GERANIOL (see Aromatic Chemicals)

GERANIUM OIL (see Essential Oils)

GERANYL ACETATE (see Aromatic Chemicals)

GLASS BOTTLES and JARS (see Bottles)

GLASS and WINDSHIELD CLEANERS

Ampion Corp., 47-02—5th St., Long Island City, N. Y.
An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Calif.
Baird & McGuire, Inc., Holbrook, Mass.
Barton Chem. Co., 3907 S. Langley Ave., Chicago
Buck-Jack Co., 3056 Federal St., Baltimore
Cadet Laboratories, 10 Clarence St., Worcester 5, Mass.
Chemical Mfg. & Dist. Co., Easton, Pa.
Chemical Service Co. of Baltimore, Howard & West Sts., Balt. 30
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
Cole Labs., 22-19—37th Ave., Long Island City
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., Kensington, Phila.
Goulard & Olena, Inc., Skillman, N. J.
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Imperial Prods. Co., 1600 Fontain St., Phila.
Industrial Labs., 17-19 W. Conway St., Baltimore

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GLASS AND WINDSHIELD CLEANERS (Contd.)

Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Kinner Prods. Co., Pataskala, Ohio
Lewis Soap & Chem. Co., Oakland, Calif.
Lorenz Chemical Co., 135 N. 32nd Ave., Omaha
Manhattan Kreole Prods., 172 N. 10th St., Brooklyn
M. Michel & Co., 90 Broad St., N. Y.
Midland Labs., Dubuque, Ia.
M. & H. Laboratories, 2703-5 Archer Ave., Chicago
Nopco Chem. Co., Harrison, N. J.
Puritan Chem. Co., Atlanta
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Shell Oil Co., 50 W. 50th St., N. Y. 20
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
E. B. Snyder Labs., 2137 E. Harold St., Phila. 25
Solshine Mfg. Co., 44 Brookline St., Cambridge, Mass.
Transmotive Labs., 2550 S. Michigan Ave., Chicago
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
Universal Chlorinator Co., 3418 W. Pico Blvd., Los Angeles
Wilco Co., 6800 McKinley Ave., Los Angeles

GLUES (see Adhesives)

GLYCERINE (Refined)

Armour & Co., 1355 W. 31st St., Chicago
Arnold, Hoffman & Co., Providence, R. I.
Century Stearic Acid Candle Wks., 41 E. 42nd St., N. Y.
Colgate-Palmolive-Peet Co., Jersey City, N. J.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Garrigues, Stewart & Davies, Inc., 40 Rector St., N. Y.
A. Gross & Co., 295 Madison Ave., N. Y.
W. C. Hardesty Co., 41 E. 42nd St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Lever Bros. Co., Cambridge, Mass.
Los Angeles Soap Co., Los Angeles, Calif.
Merck & Co., Rahway, N. J.
Leo Pasternak, 110 William St., N. Y. (Brokers)
Procter & Gamble Co., Cincinnati
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
C. J. Schellings & Co., 251 Pearl St., N. Y. (Brokers)
Werner G. Smith Co., 2191 W. 110 St., Cleveland 2
Shell Chemical Co., 4 W. 48th St., N. Y. 19
Swift & Co., Union Stock Yards, Chicago
Arthur C. Trask Co., 4103 S. La Salle St., Chicago
M. Werk Co., St. Bernard, Cincinnati
Allen B. Wrisley Co., 6801 West 65th St., Chicago

GLYCERINE PLANTS AND EQUIPMENT

E. B. Badger Co., 25 Pitts St., Boston
William Garrigue & Co., 9 S. Clinton St., Chicago
Alan Porter Lee, Inc., 150 Broadway, N. Y.
Ernest Scott & Co., Fall River, Mass.
Swenson Evaporator Co., Harvey, Ill.
Wurster & Sanger, 5201 S. Kenwood Ave., Chicago

GREASE CLEANING COMPOUND (see Cleaners, Liquid)

GREASES (See Tallow)

GREASES, LUBRICATING (see Petroleum Bases)

GREEN SOAP (see Potash Soap)

GRINDING MACHINERY (for milling, pulverizing, etc.)

Abbe Engineering Co., 50 Church St., N. Y.
American Pulverizer Co., 18th & Austin Sts., St. Louis
Allied Steel & Equipt. Co., Chester, N. J.
C. O. Bartlett & Snow Co., 6200 Harvard Ave., Cleveland
Chemical & Processing Corp., 146 Grand St., N. Y. 13 (Used)
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Gruendler Patent Crusher & Pulverizer Co., 900 N. First St., St. Louis
B. F. Gump Co., 412 S. Clinton St., Chicago
Houchin Machy. Co., Hawthorne, N. J.

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Huber Machine Co., 259 46th St., Brooklyn
Kent Machine Works, 39 Gold St., Brooklyn
Lancaster Iron Works, Lancaster, Pa.
J. M. Lehmann Co., Lyndhurst, N. J.
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Olsen & Tilgner Mfg. Co., 2276 Elston Ave., Chicago
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Prater Pulverizer Co., 1829 S. 55th Ave., Chicago
Pulverizing Machinery Co., Chatham Rd., Summit, N. J.
Chas. Ross & Sons, 150 Classon Ave., Brooklyn
Patterson Foundry & Machine Co., East Liverpool, Ohio
Sprout Waldron & Co., Muncy, Pa.
Stein Equipment Co., 90 West St., N. Y. (Used)
Stephens-Adamson Mfg. Co., Aurora, Ill.
F. J. Stokes Machine Co., Philadelphia, Pa.
Sturtevant Mill Co., Harrison Sq., Boston
U. S. Stoneware Co., Akron 9, O.
Williams Patent Crusher & Pulverizer Co., St. Louis

GUMS (Arabic, Karaya, Tragacanth, etc.)

Albert Albek, Inc., 515 S. Fairfax Ave., Los Angeles
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
C. W. Campbell Co., 157 Chambers St., N. Y.
Consumers Import. Co., 350 Fifth Ave., N. Y.
T. G. Cooper & Co., Cedar & Venango Sts., Philadelphia
Wm. Diehl & Co., 336 W. 42nd St., N. Y. 18
Dodge & Olcott, Inc., 180 Varick St., N. Y.
Greene Trading Co,, 60 Wall St., N. Y. 5 (Agents for Foreign Sellers)
Industrial Raw Materials Corp., 52 Wall St., N. Y.
J. L. Hopkins & Co., 220 Broadway, N. Y.
O. G. Innes Corp., 82 Wall St., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
George H. Lincks, 155 John St., N. Y.
National Starch Products, Inc., 270 Madison Ave., N. Y.
Neuman-Buslee & Wolfe, 224 W. Huron St., Chicago
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William H. Scheel, Inc., 38 Franklin St., Bklyn.
Stein Hall & Co., 285 Madison Ave., N. Y.
Thurston & Braidich, 286 Spring St., N. Y.
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G. A. Wharry & Co., 95 Broad St., N. Y. 4

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O. G. Innes Corp., 82 Wall St., N. Y.
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William P. Scheel, Inc., 38 Franklin St., Bklyn. 22
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Fuld Bros., 702 S. Wolfe St., Baltimore 3
Hysan Prods. Co., 923 W. 38th Pl., Chicago
Imperial Prods. Co., 1600 Fontain St., Phila. 21
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2
E. B. Snyder Labs., 2137 E. Harold St., Phila. 25
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Jansen Soap & Chemical Co., 324 Leavenworth St., San Francisco, Cal.
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Schmidt Soap Products Co., 236 W. North Ave., Chicago
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Tech Soap Mfg. Co., 125 W. 46th Pl., Chicago 34
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Trio Chem. Wks., 341 Scholes St., Bklyn.
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Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
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Ratin Labs., 116 Broad St., N. Y.
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Procter & Gamble Co., Cincinnati, O.
Werner G. Smith Co., 2191 W. 110th St., Cleveland
Welch, Holme & Clark, 439 West St., N. Y.
Wesson Oil & Snowdrift Co., 21 West St., N. Y.
Wyandotte Oil Co., Wyandotte, Mich.

HYDROGENATION PLANTS (see Oil Hydrogenation Plants)

HYDROSULFITES (Soap Bleaches)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Monsanto Chem. Co., 1700 S. 2nd St., St. Louis
Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
Royce Chem. Co., Carlton Hill, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y.

HYDROXYCITRONELLAL (see Aromatic Chemicals)

HYPOCHLORITES (see Chlorine) (see Laundry Bleach)

INFUSORIAL EARTH (see Abrasives)

INSECT POWDER (see Pyrethrum)

INSECT POWDER GUNS (see Bellows)

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Carbide & Carbon Chems. Corp., 30 E. 42nd St., N. Y.
Fairfield Labs., Inc., 417 Cleveland Ave., Plainfield, N. J.
Fuld Bros., Inc., 702 S. Wolfe St., Baltimore
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Gunning & Gunning, Inc., 601 W. 26th St., N. Y. 1
Hercules Powder Co., Wilmington 99, Dela.
Imperial Prods. Co., 1600 Fontain St., Phila. 21
Innis, Speiden & Co., 117 Liberty St., N. Y. 6
Kessler Chem. Co., 7272 State Rd., Phila.
Ketoid Chem. Co., 339 S. Van Deventer, St. Louis
Michigan Chem. Corp., St. Louis, Mich.
Puro Co., 2801 Locust St., St. Louis
Skoj Co., 250 E. 43rd St., N. Y.
St. Lawrence Chem. Co., Ogdensburg, N. Y.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Warren Chemical Prods. Co., 1138 Main Ave., SW, Warren, O.
Whitmire Res. Labs., 339 Vandeventer, St. Louis
G. H. Wood & Co., Toronto, Ont., Canada
U. S. Industrial Chemicals, Inc., 60 E. 42nd St., N. Y.

INSECTICIDE BASE OILS (see Petroleum—Insecticide Base Oils)

INSECTICIDE CONCENTRATES, Synthetic

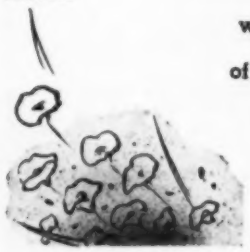
J. T. Baker Chem. Co., Phillipsburg, N. J.
Chipman Chem. Co., Bound Brook, N. J.
American-British Chem. Supplies, 180 Madison Ave., N. Y. 16
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Fairfield Labs., 417 Cleveland Ave., Plainfield, N. J.
Eston Chems., Inc., 3100 E. 26th St., Los Angeles
General Chem. Div., Allied Chemical & Dye Corp., 40 Rector St., N. Y. 6
Geigy & Co., 89 Barclay St., N. Y.
Heckathorn & Co., Richmond, Calif.
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John Powell & Co., 1 Park Ave., N. Y.
R. J. Prentiss & Co., 110 William St., N. Y.
Rohm & Haas, Inc., 222 W. Washington Sq., Phila.
U. S. Industrial Chemicals, Inc., 60 E. 42nd St., N. Y.
Velsicol Corp., 330 E. Grand Ave., Chicago
Westvaco Chem. Div., Food Machy. & Chem. Corp., 405 Lexington Ave., N. Y.
Whitmire Research Corp., 339 E. Vandeventer St. Louis

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van Ameringen-Haebler, Inc., 315 4th Ave., N. Y.
Aromatic Products, Inc., 15 E. 30th St., N. Y.
Berje Prods. Co., 616 W. 44th St., N. Y. 18
Bush Aromatics, 136 Liberty St., N. Y.
Centflor Mfg. Co., 450 W. 31st St., N. Y. 1
Antoine Chiris Co., Inc., 119 W. 57th St., N. Y.
Compagnie Duval, Division of S. B. Penick & Co., 50 Church St., N. Y.
Compagnie Parento, Inc., Croton-on-Hudson, N. Y.
Dodge & Olcott, Inc., 180 Varick St., N. Y.
P. R. Dreyer, Inc., 117½ W. 19th St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Felton Chemical Co., 603 Johnson Ave., N. Y. C.
Benj. French, Inc., 160 Fifth Ave., N. Y. C.
Fritzsche Bros., Inc., 76 Ninth Ave., N. Y .
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Gunning & Gunning, 601 W. 26th St., N. Y.
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D. W. Hutchinson & Co., 162 Front St., N. Y.
Geo. Lueders & Co., 427 Washington St., N. Y. C.
Lautier Fils, Inc., 158 W. 18th St., N. Y. C.
Magnus, Mabee & Reynard, Inc., 16 Desbrosses St N. Y.
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New York Aromatics Co., 5 Beekman St., N. Y.
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Orbis Products Corp., 215 Pearl St., N. Y.
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Sparhawk Co., Sparkill, N. Y.
Synfleur Scientific Labs., Monticello, N. Y.
Tombarel Prods. Corp., 12 E. 22nd St., N. Y.
Van Dyk & Co., Belleville, N. J.
Verona Chem. Co., 25 Verona Ave., Newark, N. J.

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Bristol Co., Waterbury, Conn.
Brown Instrument Co., Wayne & Windrim Sts., Phila.
Buffalo Meter Co., 2890 Main St., Buffalo, N. Y.
Cambridge Instrument Co., 3732 Grand Cent. Term., N. Y.
G. M. Davis Regulator Co., 2541 S. Washtenaw, Chicago
Eimer & Amend, 633 Greenwich St., N. Y.
Foxboro Co., Foxboro, Mass.
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Mackenzie Laboratories, Front & Yarnall Sts., Chester, Pa.
Pneumercator Co., Sperry Bldg., Brooklyn
Precision Thermometer Co., 1434 Brandywine St., Phila.
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Edge Moor Iron Wks., 30 Rockefeller Plaza, N. Y.
Filter Paper Co., 2464 S. Michigan Ave., Chicago
First Machy. Corp., 157 Hudson St., N. Y. (Used)
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Huber Machine Co., 259—46th St., Brooklyn
Industrial Process Engineers, 8 Lister Ave., Newark 5, N. J.
Lancaster Iron Works, 564 S. Prince St., Lancaster, Pa.
Littleford Bros., 443 E. Pearl St., Cincinnati
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago
Patterson Foundry & Machine Co., East Liverpool, O.
Patterson-Kelley Co., East Stroudsburg, Pa.
Pfaudler Co., 89 East Ave., Rochester, N. Y.
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Read Machy. Div., York, Pa.
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Stein Equipment Co., 90 West St., N. Y. (Used)
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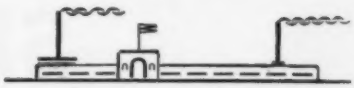
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J. L. Ferguson Co., Joliet, Ill.
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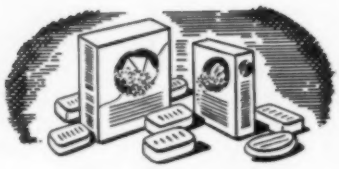
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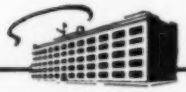
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Entomological Testing Labs., 114 E. 32nd St., N. Y.
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Illinois Chemical Labs., Gridley, Ill.
James Laboratories, 189 W. Madison St., Chicago
La Wall & Harrison, 214 S. 12th St., Phila.
Lederer Bacterological Labs., 269 S. 19th St., Phila.
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Molnar Laboratories, 211 E. 19th St., N. Y.
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Rosoff Laboratories, 60th & Osage, Phila.
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Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila.
Pittsburgh Plate Glass Co., Columbia Chemical Div. 5th & Bellefield, Pittsburgh 13
Rosenthal Bercow, 25 E. 26th St., N. Y. 10
Surpass Chemical Co., Albany, N. Y.
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Thompson-Hayward Chemical Co., Kansas City, Mo.
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Westvaco Chem. Div., Food Machy. & Chem. Corp., 405 Lexington Ave., N. Y.
Washine-National-Sands, Inc., 37-02 Northern Blvd., Long Island City

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Brilco Labs., 947—61st St., Brooklyn
Cowles Chemical Co., 7016 Euclid Ave., Cleveland
Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14
E. F. Drew Co., 15 E. 26th St., N. Y. 10
Fezandie & Sperrle, 205 Fulton St., N. Y.
Interstate Color Co., 5 Beekman St., N. Y.
H. Kohnstamm & Co., 91 Park Pl., N. Y.
National Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Penna, Salt Mfg. Co., 1000 Widener Bldg., Phila.
Pylam Products Co., 799 Greenwich St., N. Y.
E. B. Snyder Labs., 2137 E. Harold St., Phila. 25
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Welch, Holme & Clark Co., 439 West St., N. Y.

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Colgate-Palmolive-Peet Co., Jersey City, N. J.
Cudahy Packing Co., 221 N. La Salle St., Chicago
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Fels & Co., Philadelphia
Hewitt Soap Co., Dayton, O.
Kamen Soap Prods., Co., 233 Bway., N. Y.
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N. J.
Long Island Soap Co., Meeker Ave., & Bridgewater St., Brooklyn
Los Angeles Soap Co., Los Angeles, Calif.
Manhattan Soap Co., Bristol, Pa.
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John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Union Stock Yards, Chicago
Texas Soap Mfg. Co., 4905 Calhoun Rd., Houston
Vliet Soap Co., 638 Monroe St., Brooklyn, N. Y.
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Miss.
M. Werk Co., St. Bernard, Cincinnati
Allen B. Wrisley Co., 6801 W. 65th St., Chicago, Ill.
Chas. W. Young & Co., 1247 N. 26th St., Phila.

LAUNDRY SOAP, CHIP

Aid Soap Mfg. Co., 1962 Enoch St., Pittsburgh, Pa.
American Soap & Washoline Co., Cohoes, N. Y.
Armour Soap Wks., 1355 W. 31st St., Chicago
Beach Soap Co., Lawrence, Mass.
Chem. Mfg. & Dist. Co., Easton, Pa.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Colgate-Palmolive-Peet Co., Jersey City, N. J.
E. F. Drew Co., 15 E. 26th St., N. Y. 10
Du Bois Soap Co., Cincinnati, O.
J. Eavenson & Sons, Del. & Penn Sts., Camden, N. J.
Harris Soap Co., Buffalo, N. Y.
Hewitt Soap Co., Dayton, Ohio
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N. J.
Long Island Soap Co., Meeker Ave. & Bridgewater St., Brooklyn
Los Angeles Soap Co., Los Angeles, Calif.
Mackenzie Laboratories, Front & Yarnall Sts., Chester, Pa.
Nat'l Milling & Chem. Co., Manayunk, Phila.
National Soap Co., 357 South 25th St., Tacoma, Wash.
North Coast Soap & Chem. Wks., Seattle, Wash.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Co., Cincinnati
Seaboard Distributors, 60 Park Pl., Newark, N. J.
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Union Stock Yards, Chicago
Texas Soap Mfg., Corp., 4905 Calhoun Rd., Houston
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
M. Werk Co., St. Bernard, Cincinnati
Allen B. Wrisley Co., 6801 W. 65th St., Chicago, Ill.
Chas. W. Young & Co., 1247 N. 26th St., Phila.

LAUNDRY SOAP, POWD. AND GRAN.

Aid Soap Mfg. Co., 1962 Enoch St., Pittsburgh, Pa.
American Soap Powder Wks., 100 Van Dyke St., Brooklyn, N. Y.
American Soap & Washoline Co., Cohoes, N. Y.
Armour Soap Wks., 1355 W. 31st St., Chicago
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Beach Soap Co., Lawrence, Mass.
Chemical Mfg. & Dist. Co., Easton, Pa.
Chicago Sanitary Prods., 3100 S. Throop St., Chicago 8
Colgate-Palmolive-Peet Co., Jersey City, N. J.
Cudahy Packing Co., 221 N. La Salle St., Chicago
E. F. Drew Co., 15 E. 26th St., N. Y. 10
Du Bois Soap Co., Cincinnati, O.
J. Eavenson & Sons, Del. & Penn Sts., Camden, N. J.
Hewitt Soap Co., Dayton, Ohio
Kamen Soap Products Co., 233 Broadway, N. Y. 7
Los Angeles Soap Co., Los Angeles, Calif.
Mackenzie Laboratories, Front & Yarnell Sts., Chester, Pa.
Miranol Chemical Co., 16 Melville Pl., Irvington, N. J.
Napthole, Inc., 15 E. 26th St., N. Y.
Nat'l Milling & Chem. Co., Manayunk, Phila.
Nopco Chem. Co., Harrison, N. J.
National Soap Co., 357 South 25th St., Tacoma, Wash.
North Coast Soap & Chem. Wks., Seattle, Wash.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Port Huron Detergent Co., Port Huron, Mich.
Procter & Gamble Co., Cincinnati
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Seaboard Distributors, 60 Park Pl., Newark, N. J.
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
John Stanley Co., 642 W. 30th St., N. Y.
Stevens Soap Corp., 202 Sullivan St., Brooklyn
Swift & Co., Union Stock Yards, Chicago

LAUNDRY SOAP (Powd. and Gran.) (Contd.)

Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
W. Werk Co., St. Bernard, Cincinnati
Allen B. Wrisley Co., 6801 W. 65th St., Chicago, Ill.
Chas. W. Young & Co., 1247 N. 26th St., Phila.

LAUNDRY SODA (see Soda)

LAUNDRY SOURS (Fluoride, etc.)

Aluminum Co. of America, Gulf Bldg., Pittsburgh
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
American Fluoride Corp., 151 W. 19th St., N. Y.
Blockson Chemical Co., Joliet, Ill.
Chemical Mfg. & Dist. Co., Easton, Pa.
Croton Chem. Corp., 114 Liberty St., N. Y.
Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Hummel Chem. Co., 90 West St., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
H. Kohnstamm & Co., 91 Park Pl., N. Y.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila.
Port Huron Detergent Co., Port Huron, Mich.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Standard Chem. Co., Columbus, O.
John T. Stanley Co., 642 W. 30th St., N. Y. C.
Henry Sundheimer, Inc., 103 Park Ave., N. Y.
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Thompson-Hayward Chemical Co., Kansas City, Mo.
Victor Chemical Wks., 141 W. Jackson Blvd., Chicago
Welch, Holme & Clark Co., 439 West St., N. Y.
Wyandotte Chem. Corp., Wyandotte, Mich.
Chas. W. Young & Co., 1247 N. 26th St., Phila.

LAVENDER OIL (see Essential Oils)

LAURIC ACID (see also Fatty Acids)

Armour Chem. Div., Armour & Co., 1355 W. 31st St., Chicago
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
El Dorado Oil Wks., 311 California St., San Francisco
A. Gross & Co., 295 Madison Ave., N. Y. 17
Robinson Wagner Co., 110 E. 42nd St., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y. 14
Woburn Chemical Corp., Harrison, N. J.

LAURYL ALCOHOL

E. I. du Pont de Nemours & Co., Wilmington, Del.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y. C.
M. Michel & Co., 95 Broad St., N. Y.
F. Ritter & Co., 4641 Hollywood Blvd., Los Angeles 27
Robinson Wagner Co., 110 E. 42nd St., N. Y.

LEAD ARSENATE

Amer. Agricultural Chem. Co., 50 Church St., N. Y.
American Cyanamid & Chem. Co., 30 Rockefeller Plaza, N. Y.
California Spray-Chemical Corp., Lucas & Ortho Way, Richmond, Calif.
Chipman Chem. Co., Bound Brook, N. J.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours, & Co., Inc., Wilmington, Del.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Heckathorn & Co., Richmond, Calif.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Sherwin-Williams Co., Cleveland, O.

LECITHIN

American Lecithin Corp., Corona Ave., Elmhurst, L. I.
Chemical Novelties Corp., 946 W. 5th St., Cincinnati
W. A. Cleary Corp., New Brunswick, N. J.
Digestive Ferments Co., 930 Henry St., Detroit
Enco Co., 441 Lexington Ave., N. Y.
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y.
Merck & Co., Rahway, N. J.
Ross & Rowe, Inc., 50 Broadway, N. Y.
Robinson Wagner Co., 110 E. 42nd St., N. Y.
Soya Corp. of America, 36 Rockefeller Plaza, N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.
Wilson Labs., 4221 S. Western Blvd., Chicago

LEMON OIL, LEMONGRASS OIL (see Essential Oils)

LIME (Live and Hydrated)

Aluminum Co. of America, Gulf Bldg., Pittsburgh
California Spray-Chemical Corp., Lucas & Ortho Way, Richmond, Calif.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours, & Co., Inc., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Hoosac Valley Lime Co., Adams, Mass.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Lehigh Lime Co., 111 W. Washington St., Chicago
National Gypsum Co., 192 Delaware Ave., Buffalo, N. Y.
Penna. Salt Mfg. Co., Widener Bldg., Phila. 7
Rockland-Rockport Lime Co., Rockland, Maine
William H. Scheel, Inc., 38 Franklin St., Brooklyn
U. S. Lime Prods. Corp., 85 Second St., San Francisco
Whiterock Quarries, Inc., Bellefonte, Pa.
Whittaker, Clark & Daniels, Inc., 260 Bway., N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.

LIME SULFUR

Allen Co., Pittstown, N. J.
California Spray-Chemical Corp., Lucas & Ortho Way, Richmond, Calif.
Chipman Chemical Co., Bound Brook, N. J.
Corn King Co., Cedar Rapids, Ia.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Sherwin-Williams Co., Cleveland, O.
Taylor Chem. Wks., Aberdeen, N. C.

LINALOE OIL (see Essential Oils)

LINALOOL (see Aromatic Chemicals)

LINALYL ACETATE (see Aromatic Chemicals)

LINERS (see Bag Liners)

LINING MACHINERY (Cartons)

Pneumatic Scale Corp., North Quincy, Mass.
F. B. Redington Co., 112 S. Sangamon St., Chicago

LINSEED OIL

(see also Brokers and Dealers)

Archer-Daniels-Midland Corp., Minneapolis, Minn.
Bisbee Linseed Co., Philadelphia
William O. Goodrich Co., Milwaukee, Wis.
Spencer Kellogg & Sons, Buffalo, N. Y.
Kelloggs & Miller, Amsterdam, N. Y.
Minnesota Linseed Oil Co., Minneapolis, Minn.
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco
J. H. Redding, Inc., 17 Battery Place, N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.

LINSEED OIL SOAP (see Potash Soaps)

LIQUID SOAP AND BASE (see Potash Soaps)

MACHINERY, USED (see Used Machinery)

MAGNESIUM OXIDE (Magnesia)

American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N. Y.
J. T. Baker Chem. Co., Phillipsburg, N. J.
Diamond Alkali Co., 300 Union Commerce St., Cleveland 14
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Heckathorn & Co., Richmond, Calif.
Merck & Co., Rahway, N. J.
Mallinckrodt Chemical Wks., 2nd & Mallinckrodt Sts., St. Louis 7
Michigan Chem. Corp., St. Louis, Mich.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
E. E. Schundler & Co., Joliet, Ill.
Chas. A. Wagner Co., 813 Callowhill St., Phila.
Welch, Holme & Clark Co., 439 West St., N. Y.
Westvaco Chem. Div., Food Machy. & Chem. Corp., 405 Lexington Ave., N. Y.
Whittaker, Clark & Daniels, Inc., 260 Bway., N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.

MAGNESIUM STEARATE (see Stearates)

MAHOGANY SULFONATES (see Naphthenic Acids)

MAHOGANY SOAP (This term also used to designate Petroleum Sulfonates. See also Naphthenic Acids, Naphthalene Sulfonates.)

Armour Soap Wks., 1355 W. 31st St., Chicago
Colgate-Palmolive-Peet Co., Jersey City, N. J.
E. F. Drew & Co., 152 E. 26th St., N. Y. 10
Emery Industries, 4300 Carew Tower, Cincinnati
W. C. Hardesty Co., 41 E. 42nd St., N. Y.
Los Angeles Soap Co., Los Angeles, Calif.
Oil States Pet. Co., 233 Broadway, N. Y.
Oronite Chemical Co., 200 Bush St., San Francisco
John T. Stanley Co., 642 W. 30th St., N. Y.

MANILA GUM

T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Gillespie-Rogers-Pyatt Co., 80 John St., N. Y.
O. G. Innes Corp., 82 Wall St., N. Y.
Wm. H. Scheel, Inc., 38 Franklin Street, Brooklyn
Arthur C. Trask Co., 4103 S. LaSalle St., Chicago 9
U. S. Industrial Chemicals, Inc., Lincoln Bldg., N. Y.

MARINE SOAPS (see Salt Water Soaps)

MECHANIC'S HAND PASTE (see Hand Soap)

MEDICINAL SOAPS, CAKE

Armour Soap Wks., 1355 W. 31st St., Chicago
J. Eavenson & Sons., Del. & Penn Sts., Camden, N. J.
Hewitt Soap Co., Dayton, O.
Los Angeles Soap Co., Los Angeles, Calif.
Newell Gutradt Co., 350 Fremont St., San Francisco, Cal.
Procter & Gamble Co., Cincinnati
Rare Chemicals, Inc., First & Essex Sts., Harrison, N. J.
Schmidt Soap Products Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

MEDICINAL SOAPS, LIQUID (see Potash Soaps)

MENTHOL

(see also Essential Oils)

Aroscent, Inc., 58 Underhill Ave., Brooklyn 17
Bendix Chem. Corp., 120 Lexington Ave., N. Y.
S. W. Bridges & Co., 82 Wall St., N. Y.
Centflor Mfg. Co., 450 W. 31st St., N. Y. 1
Consumers Import Co, 350 Fifth Ave., N. Y.
Dodge & Olcott, Inc., 180 Varick St., N. Y.
P. R. Dreyer, 117½ W. 19th St., N. Y.
Enco Chem. Corp., 441 Lexington Ave., N. Y.
Fritzsche Bros., Inc., 76 Ninth Ave., N. Y.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Magnus, Mabee & Reynard, Inc., 16 Desbrosses St., N. Y.
A. Maschmeijer, Jr., Inc., 45 W. 16th St., N. Y.
McKesson & Robbins, Inc., 155 E. 42nd St., N. Y.
Norda Essential Oil & Chem Co., 601 W. 26th St., N. Y.
Orbis Products Corp., 215 Pearl St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y.
R. J. Prentiss & Co., 110 William St., N. Y.
F. Ritter & Co., 4641 Hollywood Blvd., Los Angeles 27
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Sherka Chemical Co., 86 Orange St., Bloomfield, N. J.
Tombarel Prods., 12 E. 22nd St., N. Y.

MERCURY BICHLORIDE (Corrosive Sublimate)

J. T. Baker Chem. Co., Phillipsburg, N. J.
F. W. Berk & Co., Wood Ridge, N. J.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Heyden Chemical Corp., 393 7th Ave., N. Y.
Mallinckrodt Chemical Works, St. Louis
Merck & Co., Rahway, N. J.
Metalsalts Corp., 27 First Ave., Paterson, N. J.
New York Quinine & Chem. Wks., N. 11th & Berry Sts., Brooklyn
Chas. Pfizer & Co., 81 Maiden Lane, N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10

METAL PAILS, etc. (Waste Baskets, Receptacles, Trash Carts, Spittoons, etc.; Garbage Pails & Barrels)

Atlas Prods. Co., 9239 S. Houston Ave., Chicago 17
Compco Corp., 2251 W. St. Paul Ave., Chicago 47
Justrite Mfg. Co., 2061 N. Southport Ave., Chicago
W. J. McElmoyl Co., Groveville, N. J.
National Enameling & Stamping Co., Milwaukee, Wisc.
F. H. Lawson Co., Cincinnati
Rochester Can Co., 88 Greenleaf St., Rochester, N. Y.
U. S. Steel Prods. Co., 30 Rockefeller Plaza, N. Y. 20
Wheeling Corrugating Co., Wheeling, W. Va.
Witt Cornice Co., 2118 Winchell Ave., Cincinnati

METAL POLISH (see Polish)

METALLIC SOAPS (see Stearates)

METERS (see Instruments)

METHANOL (Synthetic)

Carbide & Carbon Chem. Corp., 30 E. 42nd St., N. Y.
Commercial Solvents Corp., 17 E. 42nd St.,N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Merck & Co., Rahway, N. J.
Solvay Sales Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.

METHYL ANTHRANILATE

(see also Aromatic Chemicals)

Aromatic Products, Inc., 15 E. 30th St., N. Y.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Florasynth Labs., Olmstead & Starling Aves., N. Y.
A. Maschmeijer, Jr., Inc., 45 W. 16th St., N. Y.

METHYL BROMIDE

Dow Chemical Co., Midland, Mich.
Eston Chemicals, Inc., 3100 E. 26th St., Los Angeles
Michigan Chem. Co., St. Louis, Mich.
Westvaco Chem. Div., Food Machy. & Chem. Corp., 405 Lexington Ave., N. Y.

METHYL CELLULOSE

Dow Chemical Co., Midland, Mich.
General Dyestuff Corp., 435 Hudson St., N. Y.
Hercules Powder Co., Wilmington, Del.

METHYL SALICYLATE (Artificial Wintergreen)

(see also Aromatic Chemicals)

J. T. Baker Chem. Co., Phillipsburg, N. J.
Dow Chemical Co., Midland, Mich.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Heyden Chemical Corp., 393 7th Ave., N. Y.
Merck & Co., Rahway, N. J.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis

MILLS, SOAP POWDER (see Soap Machinery & Grinding Machinery)

MINERAL OIL, WHITE (see White Mineral Oil)

MINERAL SOAP (see Petrolatum)

MIRBANE OIL (Nitrobenzine)

(see also Essential Oils)

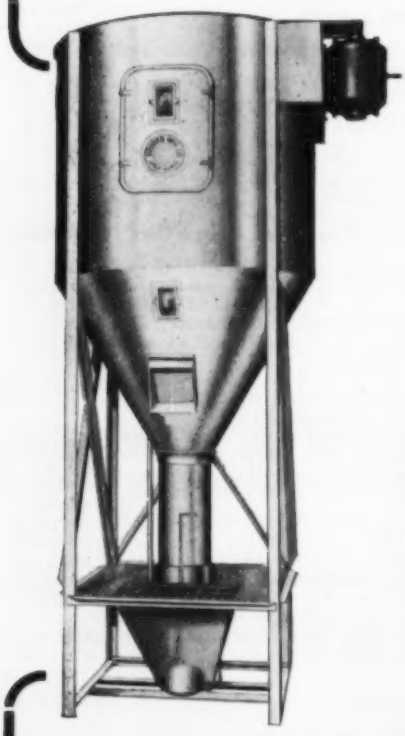
Calco Chemical Co., Bound Brook, N. J.
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis
National Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Naugatuck Aromatics, Inc., 254 Fourth Ave., N. Y.

MIXERS (Portable)

Allied Steel & Equipment Co., Chester, N. J.
Alsop Engineering Corp., 103 Green St., Milldale, Conn.
Chemical & Processing Machy. Corp., 146 Grand St., N. Y. 13 (Used)
Consolidated Products Co., 15 Park Row, N. Y. (Used)
Eastern Engineering Co., 45 Fox St., New Haven, Conn.
Ertel Eng. Co., Kingston, N. Y.
Filter Paper Co., 2464 S. Michigan Ave., Chicago
First Machy. Corp., 157 Hudson St., N. Y. (Used)
F. R. Hormann & Co., 186 Joralemon St., Bklyn. 2
Houchin Machinery Co., Hawthorne, N. J.
Industrial Process Engineers, 8 Lister Ave., Newark 5, N. J.
Mixing Equipment Co., Inc., 1067 Garson Ave., Rochester, N. Y.
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Patterson Fdy. & Mch. Co., E. Liverpool, O.
Pfaudler Co., 89 East Ave., Rochester, N. Y.
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Rapid Machy. Co., Marion, O.
Read Machy. Co., York, Pa.
Geo. G. Rodgers Co., 225 W. 34th St., N. Y.
Stein Equipment Co., 90 West St., N. Y. (Used)
U. S. Stoneware Co., Akron 9, O.

MIXING MACHINERY (Change Can Mixers)

Abbe Engineering Co., 50 Church St., N. Y.
Allied Steel & Equipment Co., Chester, N. J.
Alsop Engineering Corp., Milldale, Conn.
Amer. Mach. & Foundry Co., 511 5th Ave., N. Y.
Chem. & Processing Machy. Corp., 146 Grand St., N. Y. 13 (Used)
Arthur Colton Co., Detroit, Mich.
Consolidated Products Co., 15 Park Row, N. Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Houchin Machy. Co., Hawthorne, N. J.
Kent Machine Works, 39 Gold St., Brooklyn
Mixing Equipment Co., Inc., 1067 Garson Ave., Rochester, N. Y.
Newman Tallow & Soap Mach., 1051 W. 35th St., Chicago (Used)
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Rapid Machy. Co., Marion, O.
Read Machy. Co., York, Pa.
Chas. Ross & Son Co., 150 Classon Ave., Brooklyn
Stein Equipment Co., 90 West St., N. Y. (Used)
U. S. Stoneware Co., Akron 9, O.
Waterville Fndry. & Machine Co., Waterville, N. Y.



BROWER

Whirlwind

MIXER

For fast, easy blending of dry soap powders and cleansing compounds

Over 7,000 in Use

Mixes a perfect blend in 10 to 15 minutes. Easy to use . . . simply pour ingredients into hopper at bottom — the Brower Whirlwind Mixer does the rest. Economical . . . power cost is usually less than 5¢ per ton.

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Five sizes with mixing capacities from 700 to 4,000 pounds. Heavy welded-steel construction—built to give years of service. Designed to reduce dust. Many other outstanding features.

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MIXING MACHINERY (Dry Products)

Abbe Engineering Co., 50 Church St., N. Y.
Allied Steel & Equipment Co., Chester, N. J.
Alsop Engineering Corp., Milldale, Conn.
Amer. Mach. & Foundry Co., 511 5th Ave., N. Y.
Atlas Steel Construction Co., Irvington, N. Y.
Brower Mfg. Co., 411 N. 3rd St., Quincy, Ill.
Chemical & Process Machy. Corp., 146 Grand St., N. Y. 13 (Used)
Consolidated Products Co., 15 Park Row, N. Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
First Machy. Corp., 157 Hudson St., N. Y. (Used)
B. F. Gump Co., 412 S. Clinton St., Chicago
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259—46th St., Brooklyn
Industrial Process Engineers, 8 Lister Ave., Newark 5
Lancaster Iron Works, Lancaster, Pa.
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Prater Pulverizer Co., 1829 S. 55th Ave., Chicago
Rapids Machy. Co., Marion, Ia.
Read Machy. Co., York, Pa.
Robinson Mfg. Co., Muncy, Pa.
Geo. G. Rodgers Co., 225 W. 34th St., N. Y.
Chas. Ross & Son Co., 150 Classon Ave., Brooklyn
Scottdel, Inc., Swanton, Ohio
Sprout Waldron & Co., Muncy, Pa.
Stein Equipment Co., 90 West St., N. Y. (Used)
Stephens-Adamson Mfg. Co., Aurora, Ill.
F. J. Stokes Machine Co., Philadelphia, Pa.
Struthers-Wells Corp., Warren, Pa.
Aurelio Tanzi Engineering Co., 430 Jefferson St., Bklyn.
U. S. Stoneware Co., Akron 9, O.

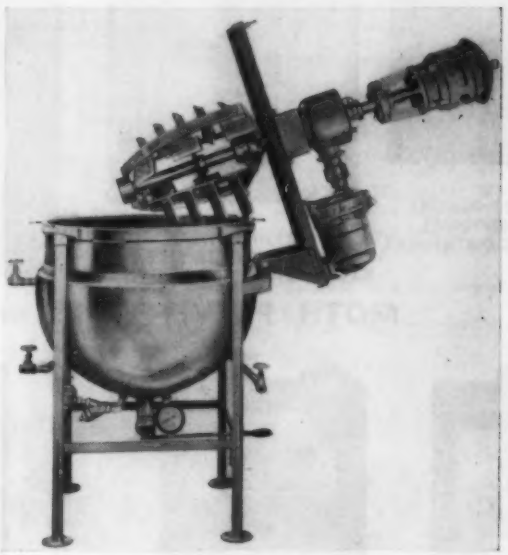
MIXING MACHINERY (General)

Allied Steel & Equipment Co., Chester, N. J.
Alsop Engineering Corp., Milldale, Conn.
Amer. Mach. & Foundy Co., 511 5th Ave., N. Y.
Baker-Perkins Co., 250 Park Ave., N. Y.
Brower Mfg. Co., 411 N. 3rd St., Quincy, Ill.
Chem. & Process Machy. Corp., 146 Grand St., N. Y. 13 (Used)
Arthur Colton Co., Detroit
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
Eastern Engineering Co., 45 Fox St., New Haven
Edge Moor Iron Wks., Edge Moor, Del.
Eppenbach, Inc., 45-10 Vernon Blvd., L. I. C., N. Y.
Filter Paper Co., 2464 S. Michigan Ave., Chicago
First Machy. Corp., 157 Hudson St., N. Y. (Used)
G.M.T. Colloid Mill Corp., 30 Church St., N. Y. 7
B. F. Gump Co., 431 S. Clinton St., Chicago
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259—46th St., Brooklyn
Industrial Process Engineers, 8 Lister Ave., Newark 5
Kent Machine Co., 37 Gold St., Brooklyn
Lancaster Iron Works, Lancaster, Pa.
J. M. Lehmann Co., Lyndhurst, N. J.
Littleford Bros., 443 E. Pearl St., Cincinnati
Mixing Equipment Co., 1067 Garson Ave., Rochester, N. Y.
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Pfaudler Co., 89 East St., Rochester, N. Y.
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Prater Pulverizer Co., 1829 S. 55th Ave., Chicago
Rapids Machy. Co., Marion, Ia.
Read Machinery Co., York, Pa.
Chas. Ross & Son Co., 150 Classon Ave., Brooklyn
Scottdel, Inc., Swanton, Ohio
Sowers Mfg. Co., 1296 Niagara St., Buffalo, N. Y.
Sprout Waldron & Co., Muncy, Pa.
Stein Equipment Co., 90 West St., N. Y. (Used)
Stephens-Adamson Mfg. Co., Aurora, Ill.
F. J. Stokes Mach. Co., Philadelphia, Pa.
Struthers-Wells Co., Warren, Pa.
Turbo Mixer Corp., 247 Park Ave., N. Y.
U. S. Stoneware Co., Akron 9, O.
Waterville Foundry & Machine Co., Waterville, N. Y.

MOP HANDLES

Amer. Standard Mfg. Co., 2509 S. Green St., Chicago
Stanley H. Coffin, 12 Pearl St., Boston

AGI-MIXER



THE AGI-MIXER IS A TRIUMPH IN ENGINEERING DESIGN

Integrating into a single piece of processing equipment many features of heat transfer and mixing action that are unique.

Combines high speed turbulizing and emulsifying action of the Eppenbach Homo-Mixer, with the sweeping, scavengering mix of single or double motion paddle mixers equipped with fitted scraper blades. Constructed so that the paddles and turbine Homo-Mixer may be operated independently or as one unit—geared through a sanitary, completely enclosed, ball bearing type gear box.

All contact surfaces normally furnished from highly polished, satin finish, corrosion resistant stainless steels. Monel, Hastelloy or other alloys quoted on request.

Supplied with single shell, jacketed kettles, or fitted to your mixing container. Mixer designed to tilt out of vessel.

Quotations furnished upon receipt of specifications concerning viscosity, specific gravity, batch size, and desired kettle accessories.

Vacuum and air tight installations quoted upon request.

EPPENBACH, INC.

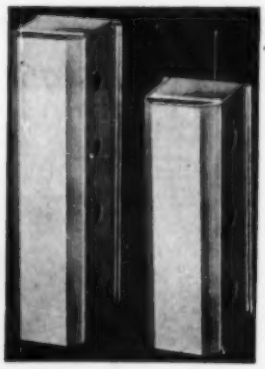
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MANUFACTURER *exclusively for the JOBBER*

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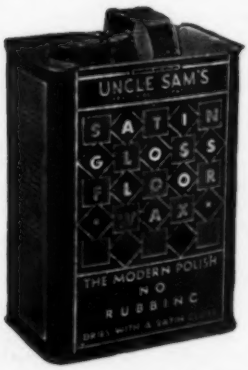


CONTAINERS
HEAVY GAUGE METAL
BAKED WHITE ENAMEL FINISH

DEODORANTS



WAXES



POLISHES



MOTH PREVENTIVES and INSECTICIDES that KILL









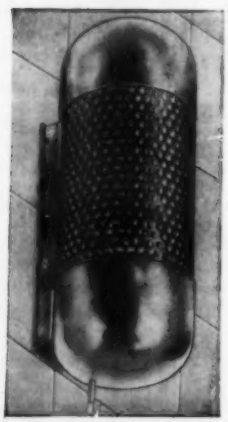


SOAPS





WE SPECIALIZE IN PRIVATE BRAND PACKING FOR THE JOBBER



DRIP MACHINES
ALL METAL
BRILLIANTLY
HARD CHROME PLATED

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WRITE FOR OUR DESCRIPTIVE CATALOGUE AND PRICE LIST

UNCLE SAM CHEMICAL CO., INC.

575 West 131st Street *Established 1920* New York 27, N. Y.

MOP HANDLES (Contd.)

Eagle Woodenware Mfg. Co., Hamilton, O.
Economy Mop Wringer Co., 1944 W. 21st St., Chicago
Erie Mop & Wringer Co., East Rochester, N. Y.
Howard Dustless Duster Co., Boston
W. E. Kautenberg Co., Freeport, Ill.
Marvel Mop Division, Zelinkoff Co., Kans.
Massasoit Mfg. Co., 72 Park Pl., N. Y.
Rex-Cleanwall Corp., Brazil, Ind.
Rubon Wood Finishing & Prods. Co., 500 W. 7th St., Kansas City, Mo.
Silver-Chamberlin Co., Clayton, N. Y.
White Mop Wringer Co., Fultonville, N. Y.

MOP WRINGERS AND PAILS

Howard J. Barrett, 1908 Walnut St., Phila.
Stanley H. Coffin, 12 Pearl St., Boston
Colson Mfg. Co., Elyria, O.
Dobbins Mfg. Co., Elkhart, Ind.
Eagle Woodenware Mfg. Co., Hamilton, Ohio
Economy Mop Wringer Co., 1944 W. 21st St., Chicago
Geuder, Paesche & Frey, Milwaukee, Wis.
Illinois Duster Co., 1944 Webster Ave., Chicago
S. C. Lawlor Co., 122 N. Aberdeen St., Chicago
Muskegon Sanitary Supply Co., Muskegon Heights, Mich.
Palmer Fixture Co., Waukesha, Wisc.
Sweet Mop Co., 1913 Fremont Ave., South Pasadena, Cal.
White Mop Wringer Co., Fultonville, N. Y.

MOPPING TANKS AND TRUCKS

Howard J. Barrett, 1908 Walnut St., Phila.
Eagle Woodenware Mfg. Co., Hamilton, O.
Economy Mop Wringer Co., 1944 W. 21st St., Chicago
S. C. Lawlor Co., 122 N. Aberdeen St., Chicago
Palmer Fixture Co., Waukesha, Wisc.
White Mop Wringer Co., Fultonville, N. Y.

MOPS

Alabama Broom & Mattress Co., Huntsville, Ala.
Amer. Standard Mfg. Co., 2509 S. Green St., Chicago
Amer. Textile Prods. Co., 5606 Euclid Ave., Cleveland
Burdett-Rose Mfg. Co., 6100 Independence Rd., Kansas City, Mo.
California Cotton Mills Co., Oakland, Calif.
Chattanooga Broom & Mop Co., Chattanooga, Tenn.
Clark Bros. Mfg. Co., 34 N. Front St., Phila.
Stanley H. Coffin, 12 Pearl St., Boston, Mass.
Eagle Woodenware Mfg. Co., Hamilton, O.
Golden Star Polish Mfg. Co., 2901 E. 13th St., Kansas City, Mo.
Howard Dustless Duster Co., Boston, Mass.
Illinois Duster & Brush Co., 1944 Webster Ave., Chicago
W. E. Kautenberg Co., P. O. Box 255, Freeport, Ill.
Klenzall Mfg. Co., Atlanta, Ga.
Marvel Mop Division, Zelinkoff Co., Wichita, Kans.
Palmer Fixture Co., Waukesha, Wisc.
Pioneer Mfg. Co., Cleveland, Ohio
Rex-Cleanwall Corp., Brazil, Ind.
Rubon Woodfinishing & Prod. Co., 500 W. 7th St., Kansas City, Mo.
Silver-Chamberlain Co., Clayton, N. J.
T. C. Smyth Mfg. Co., Union City, Ind.
Sweet Mop Co., 1913 Fremont Ave., South Pasadena, Cal.
Tate Mfg. Co., Boston, Mass.
M. J. Toohey & Co., Fall River, Mass.
Tuscaloosa Mills, Tuscaloosa, Ala.
Tu-Way Products Co., 1423 Franklin St., Detroit
Yocma Mills, Water Valley, Miss.

MOSQUITO LARVICIDES

Baird & McGuire, Inc., Holbrook, Mass.
Cary Mfg. Co., 4917 E. Michigan St., Indianapolis
Cenol Co., 4250 N. Pulaski Ave., Chicago
Chem. Service Co. of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Chipman Chemical Co., Bound Brook, N. J.
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
Davies-Young Soap Co., Dayton, O.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Co., 89 Barclay St., N. Y.
Heckathorn & Co., Richmond, Calif.
Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
James Huggins & Son, 239 Medford St., Malden, Mass.
Hunt Mfg. Co., Lisbon Rd., Cleveland
Hysan Prods. Co., 932 W. 38th Place, Chicago
Ketoid Chem. Co., 339 S. Van Deventer, St, Louis
Koppers Co., White Tar Div., Kearny, N. J.
McCormick & Co., Inc., Baltimore, Md.
Merck & Co., Rahway, N. J.
Michigan Chem. Corp., St. Louis, Mich.
R. J. Prentiss & Co., 110 William St., N. Y.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Shell Oil Co., 50 W. 50th St., N. Y.
Texol Chemical Works, 75 Ward St., Worcester, Mass.
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
Thompson-Hayward Chemical Co., Kansas City, Mo.
U. S. Sanitary Specialties Corp., 1003 S. California Blvd., Chicago 12
James Varley & Sons, 2100 Switzer Ave., St. Louis
Velsicol Corp., 330 E. Grand Ave., Chicago
Whitmire Research Labs., 339 S. Vandeventer, St. Louis 10
York Chem. Co., 23 Dean St., Bklyn

MOTH BAGS

Clopay Co., Cincinnati
Kennedy Car Liner Co., Indianapolis
LeMontre Co., Cincinnati
Puro Co., 2801 Locust St., St. Louis 3
Rosette Co., 200 Tillary St., Brooklyn

MOTH PROOFING COMPOUNDS

American Cyanamid & Chemicals Corp., 30 Rockefeller Plaza, N. Y.
Ampion Corp., 4-88—47th Ave., L. I. City, N. Y.
Antara Prods. Div., Gen. Aniline & Film Corp., 444 Madison Ave., N. Y.
Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Baird & McGuire, Inc., Holbrook, Mass.
Bailco Labs., 947—61st St., Brooklyn
Cenol Co., 4250 N. Crawford Ave., Chicago
Chem. Mfg. & Dist Co., Easton, Pa.
Chemical Service Co. of Baltimore, Howard & West Sts., Balt.
Click Chemical Corp., 41 Morrell St., Brooklyn 6
Dow Chemical Co., Midland, Mich.
Eagle Soap Corp., Huntington, Ind.
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
Edelman Co., 6429 S. St. Lawrence Ave., Chicago
Elkay Prods. Co., 323 W. 16th St., N. Y.
Fairfield Labs., Inc., 417 Cleveland Ave., Plainfield, N. J.
Fine Organics, Inc., 211 E. 19th St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Co., 89 Barclay St., N. Y.
General Dyestuff Corp., 435 Hudson St., N. Y.
James Good Co., Susquehanna Ave. & Martha St., Phila.
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y.
H. W. Hamilton Co., 34 E. 39th St., N. Y.
Harrison Oil Co., 5110 N. 35th St., Milwaukee
Hercules Powder Co., Wilmington, Del.
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Arnold Hoffman Co., Providence, R. I.
R. M. Hollingshead Corp., Camden, N. J.
Hooker Electrochemical Co., Niagara Falls, N. Y.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Imperial Prods. Co., 1600 Fontain St., Phila.
Koppers Co., White Tar Div., Kearny, N. J.
Kwik Products Co., 451 W. 28th St., N. Y.
Lewis Soap & Chem. Co., 2210 San Pablo Ave., Oakland, Calif.
Merck & Co., Rahway, N. J.
Michigan Chem. Corp., St. Louis, Mich.
Midway Chemical Co., 5235 W. 65th St., Chicago
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila.



CHEMICALS

FOR THE SOAP AND DISINFECTANT INDUSTRIES

The health records of America show the vital part played by the soap and disinfectant industries. As a principal chemical supplier to these most important industries, Barrett maintains at all times the highest possible standards of quality.

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- PYRIDINE
- XYLOL
- HI-FLASH SOLVENT
- ANHYDROUS AMMONIA

THE BARRETT DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.



*Reg. U. S. Pat. Off.

MOTH PROOFING COMPOUNDS (Contd.)

Per-Mo Products Co., 3604 Woodland Ave., Kansas City, Mo.
Puro Co., 2801 Locust St., St. Louis
Quaker Chem. Prods. Co., Conshohocken, Pa.
Chas. L. Read & Co., 120 Greenwich St., N. Y.
Reilly Tar & Chemical Corp., Indianapolis
Rohm & Haas Co., 222 W. Washington Sq., Philadelphia
Solvay Sales Div., Allied Chem. & Dye Corp., 40 Rector St., New York
Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City, Mo.
Trio Chem. Wks., 341 Scholes St., Bklyn. 6
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Jos. Turner & Co., Ridgefield, N. J.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Spec. Corp., 1003 S. California Blvd., Chicago 12
Warren Chemical Prods. Co., 1138 Main Ave., Warren, O.
Warwick Chemical Co., 10-10 44th Ave., L. I. C. 1, N. Y.
Whitmire Research Corp., 339 S. Vandeventer, St. Louis
G. H. Wood & Co., Toronto, Ont., Canada

MOTH SPRAYS (see Household Insecticides, Liquid; Moth Proofing Compounds)

MOTTLED SOAPS

Lightfoot Schultz Co., Hoboken, N. J.
Los Angeles Soap Co., Los Angeles
National Soap Co., P. O. Box 1613, Tacoma, Wash.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Schmidt Soap Products Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
M. Werk Co., Cincinnati, O.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

MOUSE SEEDS (see Poisoned Seeds)

MUSKS, ARTIFICIAL (see Aromatic Chemicals)

NAPHTHA (see Solvent Naphtha)

NAPHTHALENE

American-British Chem. Supplies, 180 Madison Ave., N. Y.
Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
S. H. Bell Co., 1407 Gulf Bldg., Pittsburgh
Dominion Tar & Chem. Co., Ltd., Montreal
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Innis, Speiden & Co., 117 Liberty St., N. Y.
Koppers Co., White Tar Div., Kearny, N. J.
Neville Co., Pittsburgh
Reilly Tar & Chem. Corp., Indianapolis
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Standard Naphthalene Prods. Co., S. Kearny, N. J.
Velsicol Corp., 330 E. Grand Ave., Chicago

NAPHTHALENE SULFONATES

Alrose Chem. Co., Box 1294, Providence, R. I.
Antara Prods., 444 Madison Ave., N. Y. 22
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
General Dyestuff Corp., 435 Hudson St., N. Y.
National Aniline & Chem. Div., 40 Rector St., N. Y.
Pennsylvania Refining Co., Butler, Pa.
Stepan Chem. Co., 1353 N. Branch St., Chicago 22
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Warwick Wax Co., 10-10 44th Ave., L. I. C. 1, N. Y.

NAPHTHENATES (see Copper Naphthenate, Zinc Naphthenate)

NAPHTHENIC ACIDS (and Sulfonic Sludges)

Advance Solvents & Chem. Co., 245—5th Ave., N. Y.
Atlantic Refining Co., 260 Broad St., Philadelphia
Enjay Co., 15 W. 51st St., N. Y. 19
General Petroleum Corp., 108 W. 2nd St., Los Angeles
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Hummel Chem. Co., 90 West St., N. Y.
Nuodex Prods. Co., Elizabeth, N. J.
Oronite Chem. Co., 200 Bush St., San Francisco 4
Pennsylvania Refining Co., Butler, Pa.
Petroleum By-Products Co., 15 Whitehall St., N. Y.
Petroleum Specialties, Inc., 400 Madison Ave., N. Y.
Shell Petroleum Corp., Shell Bldg., St. Louis
Sherwood Refining Co., Englewood, N. J.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.

NICKEL-CLAD EQUIPMENT (see also Soap Machinery)

Allied Steel & Equipment Co., Chester, N. J.
Edge Moor Iron Wks., Edge Moor, Del.
Houchin Machinery Co., Hawthorne, N. J.
International Nickel Co., 67 Wall St., N. Y.
Alan Porter Lee, Inc., 150 Broadway, N. Y.
Littleford Bros., 453 E. Pearl St., Cincinnati
Lukens Steel Corp., Coatesville, Pa.
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Read Machy. Div., York, Pa.
F. J. Stokes Machine Co., Philadelphia
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chicago

NICOTINE COMPOUNDS

American-British Chem. Supplies, 180 Madison Ave., N. Y. 16
California Spray-Chemical Corp., Lucas & Ortho Way, Richmond, Calif.
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
E. I. du Pont de Nemours, Wilmington, Del.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Heckathorn & Co., Richmond, Calif.
Hood River Spray Co., Hood River, Ore.
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Sanocide Spray Co., Fennville, Mich.
Tobacco By-Products & Chem. Corp., Louisville

NITRE CAKE (Sodium Acid Sulfate)

Amer. Agricultural Chem. Co. 50 Church St., N. Y.
Amer. Cyanamid & Chem. Co., 30 Rockefeller Plaza, N. Y.
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
Eston Chemicals, Inc., 3100 E. 26th St., Los Angeles
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Chas. Lennig & Co., 222 W. Washington Sq., Philadelphia
Monsanto Chemical Co., 1724 S. 2nd St., St. Louis
Penna. Salt Mfg. Co., Philadelphia
Rosenthal Bercow Co., 25 E. 26th St., N. Y.

NITROPARAFFINS

Commercial Solvents Corp., 17 E. 42nd St., N. Y.

NON-SOAP DETERGENTS (see Detergents, Synthetic)

NOVELTY SOAPS

Armour & Co., 1355 W. 31st St., Chicago
Illustrated Soap Co., 43 W. 10th St., N. Y.
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N. J.
Peck's Products Co., 620 E. Clarence Ave., St. Louis
Schmidt Soap Products Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Unique Soaps, P. O. Box No. 61, Covington, Ky.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

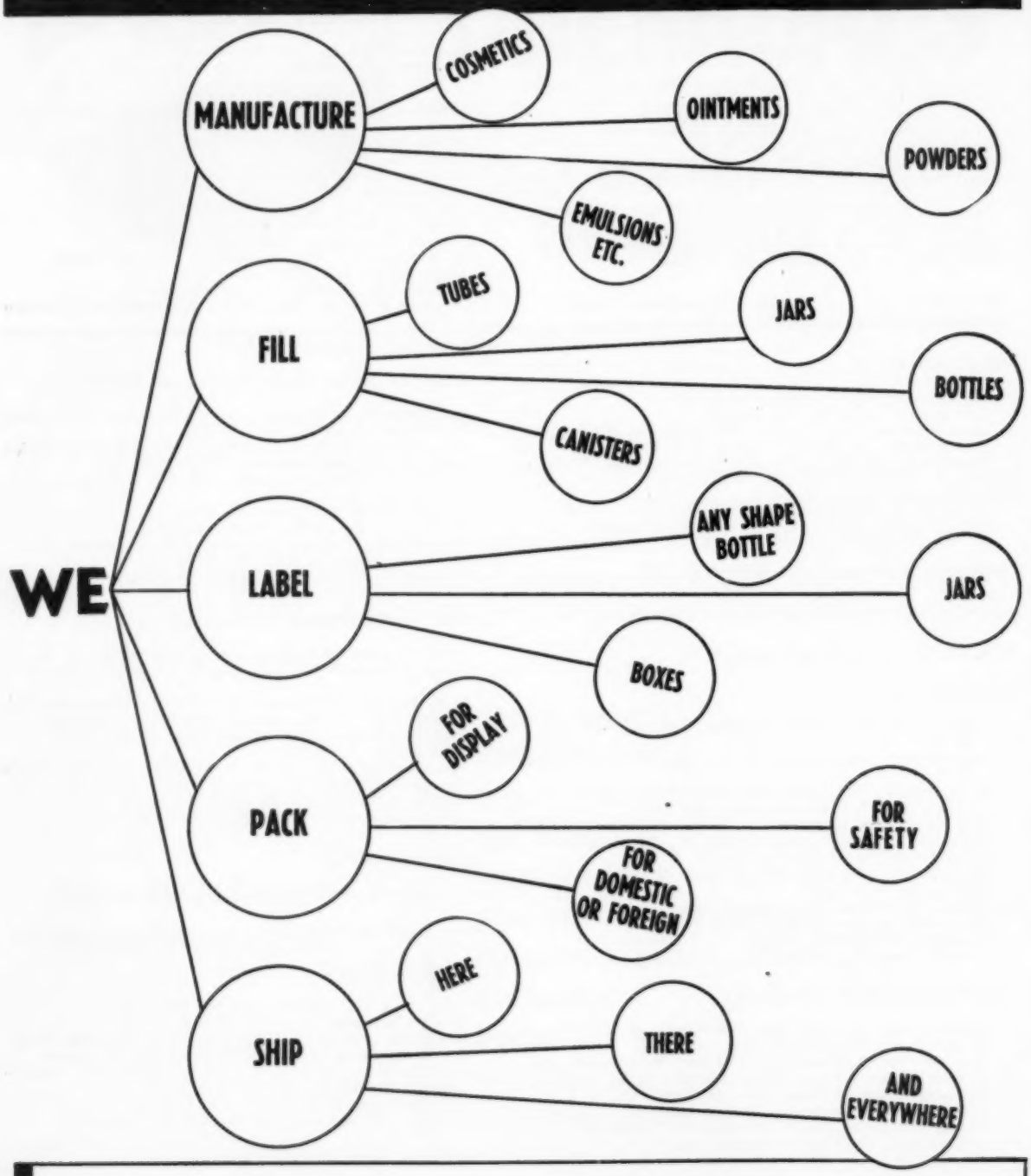
NOZZLES, FOR SPRAY SYSTEMS

Electric Sprayit Co., Sheboygan, Wisc.
Monarch Mfg. Works, 3406 Miller St., Phila.
Spraying Systems Co., 4027 W. Lake St., Chicago

ODORLESS KEROSENE (see Petroleum Insecticide Base Oils, Deodorized)

OIL, BASE (see Petroleum Insecticide Base Oils)

PRIVATE FORMULA WORK



R. GESELL, INCORPORATED

200 West Houston Street, New York 14, N. Y.

OIL HYDROGENATION PLANTS

William Garrigue Co., 9 S. Clinton St., Chicago
Alan Porter Lee, 150 Broadway, N. Y.
Robinson, Butler, Hemingway & Co., Bound Brook, N. J.
Struthers Wells Titusville Corp., Warren, Pa.
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chicago

OIL MILL EQUIPMENT

V. D. Anderson Co., 1935 W. 96th St., Cleveland
Bauer Bros. Co., Springfield, O.
Buckeye Iron & Brass Works, Dayton, O.
French Oil Mill Mach. Co., Piqua, O.
William Garrigue Co., 9 S. Clinton St., Chicago
Alan Porter Lee, Inc., 150 Broadway, N. Y.
Ernest Scott & Co., Fall River, Mass.
Sprout Waldron & Co., Muncy, Pa.
Stein Equipment Co., 90 West St., N. Y. (Used)
Struthers-Wells Co., Warren, Pa.
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chicago

OIL SOAP (see Potash Soaps)

OLEIC ACID (see Red Oil)

OLIVE OIL (Commercial)

(see also Brokers and Dealers)

Irving R. Boody & Co., 120 Wall St., N. Y.
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Eastern Industries, Inc., Ridgefield, N. J.
W. R. Grace & Co., 7 Hanover Sq., N. Y.
Otto A .C. Hagen Corp., Public Ledger Bldg., Phila.
Leghorn Trading Co., 21 West St., N. Y.
J. H. Redding Co., 17 Battery Pl., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Sergeant Chem. Co., 7 Dey St., N. Y.
Smith-Weihman Co., 15 Moore St., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.

OLIVE OIL FOOTS

(see also Brokers and Dealers)

T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Eastern Industries, Inc., Ridgefield, N. J.
Leghorn Trading Corp., 21 West St., New York
Otto A. C. Hagen Corp., Public Ledger Bldg., Phila.
J. H. Redding Co., 17 Battery Pl., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
Sergeant Chem. Co., 7 Dey St., N. Y.
Smith-Weihman Co., 15 Moore St., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.

OLIVE OIL SOAPS (see Castile Soaps, Textile Soaps)

ORTHODICHLORBENZENE (see listings under Paradichlorbenzene)

OXALIC ACID

(see also Dealers)

Amer. Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
Faesy & Besthoff, Inc., 22 E. 40th St., N. Y.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mallinckrodt Chemical Wks., St. Louis, Mo.
Merck & Co., Rahway, N. J.
R. J. Prentiss & Co., 110 William St., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Sergeant Chem. Co., 7 Dey St., N. Y.
Tamms Silica Co., 228 N. La Salle St., Chicago
Jos. Turner & Co., Ridgefield, N. J.
Victor Chemical Works, 141 W. Jackson Blvd., Chicago

PACKAGING (for the Trade)

Bonewitz Chemicals, Inc., Burlington, Ia.
Chem. Prods. Co. of N. J., 207 Astor St., Newark, N. J.
Commercial Cleanser Co., 2924 Armitage Ave., Chicago
Gaylord Chem. Co., 701 Woodswether Rd., Kansas City
R. Gesell, Inc., 206 W. Houston St., N. Y.
Harwin Laboratories, 44 Willow St., Newark, N. J.
Imperial Prods. Co., 1600 Fontain St., Phila. 21
Leeds Sales Co., 34 W. 34th St., New York
Manufacturers Aid Co., 244 Green St., Bklyn. 22
McKay-Davis Co., 851 Islington St., Toledo
Packaging Service, 2458 W. 63rd St., Chicago
Seaboard Mfg. Labs., Tulip & Dauphin Sts., Phila.
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland 13
E. B. Snyder Labs., 2137 E. Harold St., Phila. 25
Stevens Wiley Mfg. Co., Hancock, Palethorp & W. Berks Sts., Phila. 22, Pa.
Tex-ite Prods. Co., 60 Dobbin St., Bklyn. 22
Trans-Pac Services, Inc., 602 W. 52nd St., N. Y.
Waverly Mfg. Co., 1825 Wylie St., Phila.
Van Pell Chem. & Supply Corp., 48 E. First St., N. Y.

PACKAGING MACHINERY (see Cartoning Machy., Filling Machy., Weighing Equip., Wrapping Machy.)

PAILS (Fibre) (see Barrels, Fibre)

PAILS, STEEL (Receptacles), (see Metal Pails)

PAILS, STEEL (Shipping Containers)

American Can Co., 230 Park Ave., N. Y.
Bennett Mfg. Co., 14600 Princeton Ave., Chicago
Cans, Inc., 3217 W. 47th Pl., Chicago
Central Can Co., 2415 W. 19th St., Chicago
Columbia Can Co., 315 Wyckoff Ave., Brooklyn
Continental Can Co., 100 E. 42nd St., N. Y.
Fein's Tin Can Co., Bush Terminal, Brooklyn
Geuder, Paeschke & Frey Co., Milwaukee
Inland Steel Container Co., 6532 S. Menard Ave., Chicago
National Can Co., 110 E. 42nd St., N. Y.
National Steel Barrel Co., 3860 E. 91st St., Cleveland
Pittsburgh Can Co., Pittsburgh, Pa.
Pressed Steel Tank Co., 5717 Greenfield Ave., Milwaukee
Rheem Mfg. Co., 570 Lexington Ave., N. Y.
Rochester Can Co., 88 Greenleaf St., Rochester 9, N. Y.
F. C. Thornton Co., 6712 Union Ave., Cleveland
John Trageser Steam Copper Works, Maspeth, L. I.
Vulcan Stamping & Mfg. Co., Bellwood Ill.
Wheeling Corrugating Co., Wheeling, W. Va.

PAILS (Wooden)

Beaver Mills, Keene, N. H.
Eagle Woodenware Mfg. Co., Hamilton, O.
Gambrinus Cooperage Works, Louisville
Impervious Package Co., Keene, N. H.
Menasha Woodenware Co., Menasha, Wis.
Richmond Cedar Works, Richmond, Va.

PALM KERNEL OIL

(see also Brokers and Dealers)

Balfour Guthrie & Co., 67 Wall St., N. Y.
Irving R. Boody & Co., 120 Wall St., N. Y.
Durkee Famous Foods, Inc., 2670 Elston Ave., Chicago
Leghorn Trading Corp., 21 West St., N. Y.
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco, Calif.
Spencer Kellogg & Sons, Buffalo, N. Y.
J. H. Redding Co., 17 Battery Pl., N. Y.
Smith-Weihman Co., 15 Moore St., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.
Zimmerman Alderson Carr Co., 25 Broadway, N. Y.

PALM OIL

(see also Brokers and Dealers)

Balfour Guthrie & Co., 67 Wall St., N. Y.
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
E. F. Drew & Co., Wecoline Div., Boonton, N. J.
Eastern Industries, Ridgefield, N. J.

PALM OIL (Contd.)

Greene Trading Co., 60 Wall St., N. Y. 5
Otto A. C. Hagen Corp., Public Ledger Bldg., Phila.
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco
J. H. Redding Co., 17 Battery Pl., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
Smith-Weihman Co., 15 Moore St., N. Y.
Stein, Hall & Co., 285 Madison Ave., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.
Zimmerman Alderson Carr Co., 25 Broadway, N. Y.

PALM OIL FATTY ACIDS (see Fatty Acids)

PAPER CANS (see Cans)

PAPER (Corrugated) (see Boxes, Corrguated)

PAPER CUPS

F. N. Burt Co., Batavia, N. Y.
Continental Can Co., 100 E. 42nd St., N. Y.
Individual Drinking Cup Co., Easton, Pa.
Sutherland Paper Co., Kalamazoo, Mich.

PAPER (Fancy Wrapping)

Aluminum Co. of America, Gulf Bldg., Pittsburgh
A. M. Collins Mfg., 1518 Walnut St., Phila.
Louis Dejonge & Co., 155—6th Ave., N. Y.
Fox Paper Co., Lockland, Cincinnati, O.
Hampden Glazed Paper & Card Co., Holyoke, Mass.
Keller-Dorian Paper Co., 516 W. 34th St., N. Y.
New England Card & Paper Co., Springfield, Mass.
Marquette Lithograph Co., 730 N. Franklin St., Chicago
Marvellum Co., Holyoke, Mass.
Nashua Gummed & Coated Paper Co., Nashua, N. H.
Richardson Co., Lockland, O.
Geo. Schmitt & Co., 253 Maujer St., Brooklyn
Strobridge Lithographing Co., Cincinnati
Sylvania Industrial Corp., 122 E. 42nd St., N. Y.
Tamm & Co., 61 E. 11th St., N. Y.
Transcello Paper Co., Milwaukee, Wisc.
U. S. Printing & Lithographing Co., Cincinnati, O.
Whiting-Paterson Co., Inc., 320—13th St., Philadelphia
Chas. W. Williams & Co., Inc., 309 Lafayette St., N. Y.

PAPER TOWELS and TISSUES

Brown Co., Portland, Me.
Hoberg Paper & Fibre Co., Green Bay, Wisc.
Scott Paper Co., Chester, Pa.
Straubel Paper Co., Green Bay, Wisc.
Towlsaver, Inc., 2816 E. 11th St., Los Angeles
U. S. Envelope Co., Fulton, N. Y.
U. S. Envelope Co., Lititz, Pa.
Victoria Paper Mills Co., Fulton, N. Y.
Wheeler Paper Co., 299 Madison Ave., N. Y.

PARA BLOCKS (see Deodorizing Blocks)

PARADICHLOROBENZENE

Amecco Chemicals, Henderson, Nev.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
Heyden Chem. Corp., 393—7th Ave., N. Y.
Hooker Electrochemical Co., Niagara Falls, N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Merck & Co., Rahway, N. J.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis
Naylee Chemical Co., 8001 Frankfort Ave., Phila.
Niagara Alkali Co., 60 E. 42nd St., N. Y.
Phillipp Bros., 70 Pine St., N. Y.
Pittsburgh Plate Glass Co., Columbia Chem. Div., Pittsburgh
Rid-O-Moth Corp., South Kearny, N. J.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Solvay Sales Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.

HOOKER PARADICHLOROBENZENE

IN THE RIGHT SIZE FOR YOUR USE

Whatever way you want to use Paradichlorobenzene, Hooker has the size best suited for you. Seven different sizes are available all of that same high quality that has made this Hooker product the overwhelming favorite for years.

Listed below are some of the uses for Paradichlorobenzene and the Hooker size for that use—

USE	SIZE	MESH SIZE
For Repacking	Pea No. 1	Thru 5/8 on No. 2½
	Pea No. 2	Thru 4½ on No. 7
For Shaker Top Cans	Rice No. 1	Thru No. 7 on No. 9
For Press Forming into Blocks	Rice No.2	Thru No. 9 on No. 12
	Rice No. 3	Thru No. 12 on No. 32
For Agricultural Use	Granulated	Everything thru No. 7
For Block Forming by Melting	Powder	Everything thru No. 32

Hooker Paradichlorobenzene is a pure unadulterated crystalline product which vaporizes readily leaving no residue.

Send for sample and for Bulletin 454-A which details some of the uses of Paradichlorobenzene and points out methods for further processing.

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PARAFFIN

Atlantic Refining Co., 260 S. Broad St., Philadelphia
Borne-Scrymser Co., Elizabeth, N. J.
E. A. Bromund Co., 258 Broadway, N. Y.
Cornelius Products Co., 386 4th Ave., N. Y.
Distributing & Trading Co. 444 Madison Ave. N. Y.
Gulf Refining Co., Pittsburgh
Industrial Raw Materials Corp., 52 Wall St., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
International Wax Refining Corp., 4415 Third Ave., Bklyn.
Lenape Trading Co., 233 Broadway, N. Y.
George H. Lincks, 155 John St., N. Y.
Oil States Petroleum Co., 233 Broadway, N. Y.
Pennsylvania Refining Co., Butler, Pa.
Petroleum Specialties, Inc., 400 Madison Ave., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Sherwood Refining Co., Englewood, N. J.
Sinclair Refining Co., 630—5th Ave., N. Y.
Smith & Nichols, 121 Maiden Lane, N. Y.
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ind., 910 S. Michigan Ave., Chicago
Standard Oil Co. (N. J.), 26 Broadway, N. Y.
Standard Oil Co. (Ohio), Midland Bldg., Cleveland
F. W. Steadman Co., 59 Pearl St., N. Y.
Strohmeyer & Arpe Co., 39 Franklin St., N. Y.
Texas Co., 135 E. 42nd St., N. Y.
Arthur C. Trask Co., 4103 S. LaSalle St., Chicago 9
Warwick Chemical Co., 580 5th Ave., N. Y.
Wax & Rosin Prods., 42 Broadway, N. Y.

PARAFFIN OILS

Atlantic Refining Co., 260 S. Broad St., Philadelphia
Deep Rock Oil Corp., 155 N. Clark St., Chicago
Gulf Refining Co., Pittsburgh
Industrial Raw Materials Corp., 52 Wall St., N. Y.
International Wax Refining Corp., 4415 Third Ave., Bklyn.
Oil States Pet. Co., 233 Broadway, N. Y.
Pennsylvania Refining Co., Butler, Pa.
Petroleum Specialties, Inc., 400 Madison Ave., N. Y.
Chas. L. Read & Co., 120 Greenwich St., N. Y.
Sherwood Refining Co., Englewood, N. J.
Sinclair Refining Co., 630—5th Ave., N. Y.
Shell Oil Co., 50 W. 50th St., N. Y. 20
Skelly Oil Co., Skelly Bldg., Kansas City, Mo.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago
Standard Oil Co. (Ohio), Midland Bldg., Cleveland
F. W. Steadman Co., 59 Pearl St., N. Y.

PARIS GREEN

Chipman Chemical Co., Bound Brook, N. J.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours Co., Wilmington, Del.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Reichhold Chemicals, Inc., 105 Bedford Ave., Brooklyn
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Sherwin-Williams Co., Cleveland

PASTES (see Adhesives)

PATCHOULI OIL (see Essential Oils)

PEANUT OIL

(see also Brokers and Dealers)

Irving R. Boody Co., 120 Wall St., N. Y.
Darling & Co., 4201 S. Ashland Ave., Chicago
Eastern Industries, Inc., Ridgefield, N. J.
Otto A. C. Hagen Corp., Public Ledger Bldg., Phila.
Spencer Kellogg & Sons, Buffalo, N. Y.
Leghorn Trading Co., 21 West St., N. Y.
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco
J. H. Redding, Inc., 17 Battery Place, N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Sergeant Chem. Co., 7 Dey St., N. Y.
Smith-Weihman Co., 15 Moore St., N. Y.
Southern Cotton Oil Co., Produce Exchange, N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.

PEARL ASH (see Potassium Carbonate)

PENNYROYAL OIL (see Essential Oils)

PEPPERMINT OIL (see Essential Oils)

PERCOLATORS (for solvent extraction)

Brighton Copper Works, 2161 Kindel Ave., Cincinnati
Arthur Colton Co., Detroit, Mich.
Edge Moor Iron Wks., 30 Rockefeller Plaza, N. Y.
Karl Kiefer Machine Co., 919 Martin St., Cincinnati, O.
Pfaudler Co., 89 East Ave., Rochester, N. Y.
F. J. Stokes Machine Co., Philadelphia

PERFUME DISSEMINATORS

Chemical Service Co. of Baltimore, Howard & West Sts., Balt. 30
Ellis Davidson Co., 22 Reade St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Hysan Prods. Co., 932 W. 38th Place, Chicago
Robinson Clay Prod. Co., 101 Park Ave., N. Y.
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Specialties Corp., 1003 S. California Blvd., Chicago 12

PERFUMING COMPOUNDS

Albert Albek, Inc., 511 S. Fairfax, Los Angeles
Allondon, Inc., 55 Dey St., N. Y.
American British Chemical Supplies, 180 Madison Ave., N. Y.
van Ameringen-Haebler, Inc., 315 Fourth Ave., N. Y.
Aromatic Products, Inc., 15 E. 30th St., N. Y.
Aroscent, Inc., 58 Underhill Ave., Brooklyn 17
Bendix Chem. Corp., 420 Lexington Ave., N. Y.
Berje Prods. Co., 616 W. 44th St., N. Y. 18
Bush Aromatics, Inc., 136 Liberty St., N. Y.
Centflor Mfg. Co., 450 W. 31st St., N. Y.
Ph. Chaleyer, Inc., 160 E. 56th St., N. Y.
Antoine Chiris Co., Inc., 119 W. 57th St., N. Y.
Compagnie Duval, Division of S. B. Penick & Co., 50 Church St., N. Y.
Compagnie Parento, Croton-on-Hudson, N. Y.
Dodge & Olcott, Inc., 180 Varick St., N. Y.
Dow Chemical Co., Midland, Mich.
P. R. Dreyer, Inc., 117½ W. 19th St., N. Y.
A. C. Drury & Co., 219 East North Water St., Chicago
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
Felton Chemical Co., 603 Johnson Ave., Brooklyn, N. Y.
Firmenich & Co., 250 W. 18th St., N. Y.
Fleuroma, Inc., 73 Sullivan St., N. Y.
Florasynth Laboratories, 1513 Olmstead Ave., Bronx
René Forster Co., 68 Dey St., N. Y. 7
Benj. French, Inc., 160 Fifth Ave., N. Y.
Fritzsche Brothers, Inc., 76 Ninth Ave., N. Y.
R. Gesell, Inc., 200 W. Houston St., N. Y.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Gunning & Gunning, 601 W. 26th St., N. Y.
Heine & Co., 54 Cliff St., N. Y.
D. W. Hutchinson & Co., 162 Front St., N. Y.
Hymes Bro. Co., 37 Howard St., N. Y.
Kay-Fries Chemicals, Inc., 180 Madison Ave., N. Y.
Lautier Fils, 321 Fifth Ave., N. Y.
Pierre Lemoine, 67 Cortlandt St., N. Y.
Geo. Lueders & Co., 427 Washington St., N. Y.
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y.
A. Maschmeijer, Jr., Inc., 43 W. 16th St., N. Y.
Naugatuck Aromatics, 254 Fourth Ave., N. Y.
Neuman-Buslee & Wolfe, 224 W. Huron St., Chicago
New York Aromatics Co., 5 Beekman St., N. Y.
Norda Essential Oil & Chem. Co., 601 W. 26th St., N. Y.
Noville Essential Oil Co., 157 Cedar St., N. Y.
Orbis Products Corp., 215 Pearl St., N. Y.
Perry Bros., Inc., 220 Flushing Ave., Brooklyn
Polak's Frutal Wks., Inc., 36-14—35th St., L. I. City
Polak & Schwarz, Inc., 667 Washington St., N. Y.
Henri Robert, Inc., 39 W. 60th St., N. Y.
F. Ritter & Co., 4641 Hollywood Blvd., Los Angeles 27
Roubechez, Inc., 8 E. 12th St., N. Y. 3
Roure-Dupont, Inc., 366 Madison Ave., N. Y.
H. C. Ryland, Inc., 161 Water St., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Edwin Seebach Co., 912 Broadway, N. Y.

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Above photo shows laboratory samples of perfumed soap being subjected to aging and exposure tests for determination of odor stability, odor fixation and discoloration.



SEE ALSO OUR AD ON PAGE 90

BE **SURE** IT'S RIGHT! . . . It may take a little longer to make certain, but it's a mighty good rule to follow when you're choosing a perfume for your soap—or for that matter, for any product you may plan to market. Careful time-testing and checking of results is standard procedure before our laboratories will recommend a FRITZSCHE perfume compound for any purpose. Customers who adopt FRITZSCHE perfume materials can count upon top quality and top performance because **we** have to be **sure** it's right before we'll recommend it.

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PERFUMING COMPOUNDS (Contd.)

Seeley & Co., 136 Liberty St., N. Y.
C. A. Seguin, 2141 W. North St., Chicago
Sparhawk Co., Sparkill, N. Y.
Synfleur Scientific Labs., Monticello, N. Y.
Syntomatic Corp., 114 E. 32nd St., N. Y.
Tombarel Products Corp., 12 E. 22nd St., N. Y.
Ungerer & Co., 161 Sixth Ave., N. Y.
Van Dyk & Co., Belleville, N. Y.
Albert Verley, Inc., 440 W. Superior St., Chicago
Verona Chem. Co., 26 Verona Ave., Newark, N. J.

PETIT GRAIN OIL (see Essential Oils)

PETROLATUM (Petroleum Jelly)

Atlantic Refining Co., 260 S. Broad St., Philadelphia
Borne-Scrymser Co., Elizabeth, N. J.
Chesebrough Mfg. Co., 17 State St., N. Y.
Industrial Raw Materials Corp., 52 Wall St., N. Y.
Malone Oil Co., 2199 E. 18th St., Cleveland
Pennsylvania Refining Co., Butler, Pa.
Oil States Pet. Co., 253 Broadway, N. Y.
Petroleum Specialties, Inc., 400 Madison Ave., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Shell Oil Co., 50 W. 50th St., N. Y.
Shell Petroleum Corp., Shell Bldg., St. Louis
Sherwood Refining Co., Englewood, N. J.
Sinclair Refining Co., 630 Fifth Ave., N. Y.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago
Standard Oil Co. (N. J.), 26 Broadway, N. Y.
F. W. Steadman Co., 59 Pearl St., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.

PETROLEUM INSECTICIDE BASE OILS (Base for Household, Cattle and other Insect Oil Sprays, etc.)

Anderson-Prichard Oil Corp., Oklahoma City, Okla.
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Beacon Oil Co., Everett, Mass.
Borne-Scrymser Co., Elizabeth, N. J.
Commerce Petroleum Co., 2923 Lock St., Chicago
Deep Rock Oil Corp., 155 N. Clark St., Chicago
Empire Oil Co., Oil City, Pa.
Gulf Oil Co., Gulf Bldg., Pittsburgh
Oil Service Co., Warren, Pa.
Oil States Pet. Co., 233 Broadway, N. Y.
Pennsylvania Refining Co., Butler, Pa.
Pennzoil Co., Oil City, Pa.
Chas. L. Read & Co., 120 Greenwich St., N. Y.
Shell Oil Co., 50 W. 50th St., N. Y.
Shell Petroleum Corp., Shell Bldg., St. Louis
Sherwood Refining Co., Englewood, N. J.
Sinclair Refining Co. 630 Fifth Ave., N. Y.
Skelly Oil Co., Skelly Bldg., Kansas City, Mo.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago
Standard Oil Co. (N. J.), 26 Broadway, N. Y.
F. W. Steadman Co., 59 Pearl St., N. Y.
Sun Oil Co., 1608 Walnut St., Philadelphia
Texas Co., 135 E. 42nd St., N. Y.
Tidewater Oil Co., 11 Broadway, N. Y.

PETROLEUM INSECTICIDE BASE OILS, Deodorized

Anderson-Prichard Oil Corp., Oklahoma City, Okla.
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Commerce Petroleum Co., 2923 Lock St., Chicago
Pennsylvania Refining Co., Butler, Pa.
Shell Oil Co., 50 W. 50th St., N. Y.
Sherwood Petroleum Co., Englewood, N. J.
Sinclair Refining Co., 630—5th Ave., New York
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago

PETROLEUM ETHER (see Ether)

GREATER KILL

FOR YOUR INSECTICIDE SPRAYS

with Penn Drake **SOLVENTS**

Penn-Drake Insecti-Sol Specifications

A.P.I. Gravity	49-50.5
Specific Gravity	0.777-0.784
Saybolt Vis. at 100°F.	30-32 sec.
Flash Point	170-180°F.
Fire Point	185-195°F.
Initial Boiling Point	385-395°F.
Distillation End Point	485-495°F.
Unsulphonatable Residue	99%
Color	Water White
Odor	Odorless

Penn-Drake Super-Sol Specifications

A.P.I. Gravity	53/55
C.O.C. Flash °F.	130/135
C.O.C. Fire °F.	140/145
Initial Boiling Point °F.	330/340
End Point °F.	430/440

P-D INSECTI-SOL

Penn-Drake Insecti-Sol is the answer to the demand for an insecticide base with longer float . . . deeper penetrations . . . and freedom from odor and stain. This 100% volatile base is highly recommended for use as a base for all types of insecticide sprays, but it is particularly outstanding as a solvent for DDT solutions or DDT crystals in low concentrations.

P-D SUPER-SOL

This super-refined solvent is especially efficient as a base for mothicides. It also has many qualities which make it ideal for use in odorless paints, home dry cleaners, DDT residual sprays, metal parts cleaners and countless other applications where a high flash is necessary.

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PHOSPHORUS PASTE

for ROACHES *and* RATS

For more than 75 years J-O PHOSPHORUS PASTE has been recognized by experienced maintenance men as a sure means of pest control with a minimum of effort. Today J-O PASTE still leads the field with its original basic formula. Containing phosphorus, one of the *most potent* of all exterminator chemicals, J-O will keep premises free of roaches and rats, yet is absolutely safe to use. It cannot burn or set fire to other substances and will not harm the hands or skin.

ROACHES of all types can be eliminated quickly and easily with J-O. Just spread a small amount on pieces of raw potato and place wherever roaches appear — around pipes, under sinks, in closets and storerooms. J-O is particularly effective in *damp* places, where powders are impractical.

RATS poisoned by J-O PASTE will usually succumb *outside*, driven to seek air and water to alleviate the distress caused by the phosphorus — a slow-acting poison. Simple to use. Bait is easily prepared.

J-O Phosphorus Paste today is the Recognized Standard

Sold in bulk sizes for repacking (packed in sizes of 25 lbs., 50 lbs., etc.)

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JOHN OPITZ, INC.

Long Island City 4, New York

Pioneer Manufacturers of Phosphorus Paste since 1874

Senco*
PHOSPHORUS PASTE

Senco Phosphorus Paste is commonly called rat and roach paste. It is sold only in bulk, and it does not deteriorate with age.

It can be packaged in cans or tubes and sold as YOUR BRAND of RAT AND ROACH PASTE.

PRICES

10 lbs.	$5.00	50 lbs.	$19.00
25 lbs.	10.00	100 lbs.	35.00

•

Senco ARSENIC SOLUTION

Senco Arsenic Solution contains an organic derivative of arsenic. One gallon diluted with nine gallons of water makes ten gallons of a very palatable and toxic drink for rats and mice.

PRICES

One gallon $6.00 Five gallons $25.00

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Senco
POISON GRAINS FOR MICE

Senco Poison Canary Seed, and other Senco Poison Grains are used to control mice. Quotations on request. All prices subject to change without notice.

•

SENNEWALD DRUG CO., INC.

Est. 1855

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Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Concord Chemical Co., Public Ledger Bldg., Phila. 6
Dow Chemical Co., Midland, Mich.
Heyden Chemical Corp., 393 7th Ave., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Koppers Co., Koppers Bldg., Pittsburgh, Pa.
Monsanto Chemical Co,. 1700 S. 2nd St., St. Louis
Reilly Tar & Chem. Corp., Indianapolis
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10

PHENOL-COEFFICIENT DETERMINATIONS (see Laboratories, Testing)

PHENYL ACETIC ALDEHYDE (see Aromatic Chemicals)

PHENYL ETHYL ALCOHOL (see Aromatic Chemicals)

pH INDICATORS

Lamotte Chemical Prods., Dept. R., Towson, Baltimore
National Technical Labs., 820 Mission St., South Pasadena, Calif.
Pfaltz & Bauer, 350—5th Ave., N. Y.
W. A. Taylor Co., 7300 York Rd., Baltimore

PHOSPHORUS PASTE

John Opitz, 50-14—39th St., Long Island City, N. Y.
Sennewald Drug Co., 2721 Chouteau Ave., St. Louis

PINE OIL

American Turpentine Farmers Association, Valdosta, Ga.
American Turp. & Tar Co., 810 S. Broad St., New Orleans
E. W. Colledge, General Sales Agent, Inc., P. O. Box 389, Jacksonville, Fla.
John H. Calo Co., 19 Rector St., N. Y.
Continental Turp. & Rosin Corp., Laurel, Miss.
Crosby Chemicals, Inc., De Ridder, La.
Dixie Pine Prods. Co., Hattiesburg, Miss.
Glidden Co., Naval Stores Div., Jacksonville, Fla.
Gulf Naval Stores Supply Co., Whitney Bldg., New Orleans
Hercules Powder Co., Wilmington, Del.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co,. 230 Park Ave., N. Y.
National Turp. Prods. Co., Gulf Point, Fla.
Newport Industries, Inc., 230 Park Ave., N. Y.
Phoenix Naval Stores Co., Gulfport, Miss.
Southern Pine Chem. Co., Box 389, Jacksonville
Taylor, Lowenstein & Co., Mobile, Ala.
Welch, Holme & Clark Co., 439 West St., N. Y.
G. A. Wharry & Co., 95 Broad St., N. Y. 4

PINE OIL DISINFECTANTS (see Disinfectants, Pine Oil)

PINE NEEDLE OIL (see Essential Oils)

PINE SCRUB SOAPS (see also Floor Scrub Soaps)

American Soap & Washoline Co., Cohoes, N. Y.
Ampion Corp., 4-88—47th Ave., L. I. City, N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
Armour & Co., 1355 W. 31st St., Chicago
Baird & McGuire, Inc., Holbrook, Mass.
Baum's Castorine Co., Rome, N. Y.
Boston Chemical Industries, 64 E. Brookline St., Boston
Bri-Test Prods. Corp., 845 E. 138th St., New York
Buckingham Wax Corp., Van Dam St. & Borden Ave., L. I. City, N. Y.
Chemical Mfg. & Distrib. Co., Easton, Pa.
Chem. Service Co. of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chemical Co., 62 William St., N. Y.
Churchill Mfg. Co., Galesburg, Ill.
Davies-Young Soap Co., Dayton, O.
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FOR CLEANING PROBLEMS because of years of development and research by top chemists. Our soaps are compounded to give maximum economy and safe cleansing, and establish a new high in low cost.

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The outstanding original finish for gymnasium floors. A hard, durable finish—will not rubber-burn, withstands boiling water, resists alkalies, acid, heat and cold—impervious to fresh and salt water. Easily applied with a lambs' wool applicator. Other uses—handball courts, squash racquet courts, badminton courts and other floor surfaces for athletic activities.

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Highly perfected concentrated base colors ready for use, to impart colors as well as extreme durability on wood, concrete and cement surfaces. Made in Light Oak, Dark Oak, Light Gray, Dark Gray, Walnut, Maroon, Green.

- ***FED-CO PENETRATING SEALER***



This is a highly specialized penetrating sealer for wood floors. Seals wood pores, makes a harder, longer wearing floor that is easy to clean. Meets the conditions and requirements of large organizations operating chain units. Applied by spraying or large lamb's wool applicator. Forms a hard, durable finish that will not stain merchandise accidentally dropped on it.

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A penetrating sealer, very pale in color, that can be used for sealing either new surfaces or surfaces that have been formerly sealed. It properly fills the pores and is resistant to water.
Especially recommended as a sealer type material for use where subsequent coats of wax are to be applied.

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The perfect sealer for terrazzo and marble floors. Reduces cost of maintenance. Prevents penetration of dirt. Crystal clear, absolutely will not discolor tile upon application.

- ***TERRAZZO FINISH***

Apply with mop—Dries quickly—Can be buffed to a beautiful lustre—Will not discolor or darken the terrazzo.

- ***MOP VAR***



A Penetrating Sealer to be applied with a mop or other applicator. Reduces maintenance and application costs. For wood, concrete, hard mastic or magnesite, cork and cork tile.

- ***LIGHTNING LUSTRE***

A wear and water resisting, self-polishing, high lustre carnauba wax base finish of highest quality. For linoleum, congoleum, wood, rubber tile, soft composition and for maintenance of practically any surface.

- ***LIQUID OIL BASE WAX***

A wax of the oil base type. Applied with a mop or applicator. Buffs and polishes beautifully. A superior product of its type.

- ***No. 70 RESTORER***

Cleanses sealed floors of dirt, dust, grease, rubber burns and other disfigurations, imparts a fine lustre and saves much time over ordinary operations. Ideal for sealed wood, cement, linoleum and other surfaces.

- ***GYM FINISH CLEANER and POLISH***

Removes rubber deposits or burns without dulling, softening, or in any way affecting the original finish. It *cleans, revives, polishes* and *protects.* Applied by a spray or large cotton or wool mop. Will not collect dust or cause a slippery condition.

- ***MASTIC ASPHALT TILE SEALER***

Seals the tile against dirt, dust, grease, etc. Makes the surface easy to keep clean, reduces scrubbing and prolongs the life of the tile.

- ***GYM FINISH MARKING ENAMELS***

Another Federal specialized product made for marking hand ball courts, basket ball floors, running lanes, etc. Has the remarkable wearing quality of Gym Finish and possesses great covering and hiding power. Made in White, Red, Black, Yellow, Blue, Green, Tan, Ivory, Orange and Jade.

- ***NO-BURN VARNISH REMOVER***

A quick-acting NON-INFLAMMABLE varnish remover for interior use. Cuts paints, enamels and lacquers easily. NEEDS NO AFTER RINSE—merely wipe with a clean cloth. Eliminates fire hazards.

FEDERAL VARNISH DIVISION

DEPT. 49, ASHLAND AVE. AT 29th STREET **CHICAGO 8, ILLINOIS**

PINE SCRUB SOAPS (Contd.)

Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., 2116 Susquehanna Ave., Phila.
Haag Laboratories, Inc., 140th & Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Philadelphia
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Hysan Products Co., 932 W. 38th Place, Chicago
Klix Chem. Co., 2460 Third St., San Francisco
Kranich Soap Co., 60 Richards St., Brooklyn
Lewis Soap & Chem. Co., 2210 San Pablo Ave., Oakland, Calif.
Midland Labs., Dubuque, Ia.
Nopco Chem. Co., Harrison, N. J.
Oil-Kraft, Inc., 3330 Beekman St., Cincinnati
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Puritan Chem. Co., 209 Peters St., S.W., Atlanta
Puritan Soap Co., 573 Lyell Ave., Rochester, N. Y.
Rex-Cleanwall Corp., Brazil, Ind.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Rochester Germicide Co., 333 Hollenbeck St., Rochester 5, N. Y.
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Schmidt Soap Products Co., 236 W. North Ave., Chicago
Shawmut Specialty Co., 91 Bickford St., Boston
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
E. B. Snyder Labs., 2137 E. Harold St., Phila. 25
Solshine Mfg. Co., 412—2nd St., Fall River, Mass.
John T. Stanley Co., Inc., 642 W. 30th St., N. Y.
Superior Soap Corp., 121 Nostrand Ave., Brooklyn
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Texol Chem. Works, 75 Ward St., Worcester, Mass.
Tesco Chem. Co., P. O. Box 4748, Atlanta
Thompson-Hayward Chem. Co., Kansas City, Mo.
Trio Chem. Wks., 341 Scholes St., Bklyn.
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Spec. Corp., 1003 S. California Blvd., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis
G. H. Wood & Co., Toronto, Canada
Chas. W. Young & Co., 1247 N. 26th St., Phila.

PINE TAR

American Turpentine Farmers Association, Valdosta, Ga.
E. W. Colledge, General Sales Agent, Inc., P. O. Box 389, Jacksonville, Fla.
Crosby Chemicals, Inc., Picayune, Miss.
Glidden Co., Naval Stores Div., Jacksonville, Fla.
Gulf Naval Stores Supply Co., Whitney Bldg., New Orleans
Hercules Powder Co., Wilmington, Del.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Newport Industries, Inc., 230 Park Ave., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
Southern Pine Chem. Co., Box 389, Jacksonville
Taylor, Lowenstein & Co., Mobile, Ala.
G. A. Wharry & Co., 95 Broad St., N. Y. 4

PIPE COILS

Alloy Prods. Corp., 221 Madison St., Waukesha, Wis.
Brighton Copper Works, 2150 Colerain Ave., Cincinnati
Harrisburg Steel Corp., Harrisburg, Pa.
Hartford Tube Products Co., Hartford, Conn.
Houchin Machinery Co., Hawthorne, N. J.
National Pipe Bending Co., New Haven, Conn.
Philadelphia Pipe Bending Co., 4100 N. 5th St., Phila.
Pittsburgh Pipe Coil & Bending Co., Etna, Pa.
Rempe Co., 340 N. Sacramento Blvd., Chicago
Whitlock Coil Pipe Co., Hartford, Conn.

PLANT SPRAYS (see Agricultural Insecticides)

PLATES, STEEL, CORROSION-RESISTANT (see Steel, Corrosion-Resistant)

PLODDERS (see Soap Machinery)

POISONED SEEDS (Poison Grain)

Exterminating Materials Co., 555 W. 22nd St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore, Md.
Hysan Products Co., 932 W. 38th Place, Chicago
O. E. Linck Co., 51 James St., Montclair, N. J.
Sennewald Drug Co., 2721 Chouteau Ave., St. Louis
W. R. Sweeney, Salisbury, Mo.
Warren Chemical Prods. Co., 1138 Madison Ave., N.W., Warren, O.
York Chemical Co., 23 Dean St., Bklyn.

POLISH BASES (see Petroleum Bases)

POLISHES (see also Floor Waxes, etc.)

Alexander Chem. Co., 511 Willoughby Ave., Brooklyn 6
Ampion Corp., 4-88—47th Ave., L. I. City, N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
Armiger Chem. Co., 2155 W. Hubbard St., Chicago
Banner Chemical Prod. Corp., 329 Mulberry St., Newark, N. J.
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Boston Chemical Industries, 64 E. Brookline St., Boston
Bri-Test Prods. Corp., 845 E. 138th St., New York
Buckingham Wax Corp., Borden Ave. and Van Dam St., L. I. City, N. Y.
Cadet Laboratories, 10 Clarence St., Worcester 5, Mass.
Candy & Co., 2515 W. 35th St., Chicago
Cary Mfg. Co., 4586 Felton St., San Diego 4, Calif.
Chemical Compounding Corp., 262 Huron St., Brooklyn
Chemical Mfg. & Dist. Co., Easton, Pa.
Chem. Service Co. of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
Cole Laboratories, 22-19 37th Ave., L. I. City, N. Y.
Continental Car-Na-Var Corp., Brazil, Ind.
Creco Co., Creco Bldg., L. I. City, N. Y.
Crowell Chemical Co., East Rutherford, N. J.
Davies Young Soap Co., Dayton, O.
Eagle Soap Corp., Huntington, Ind.
Elkay Products Corp., 323 W. 16th St., N. Y.
Empire Chem. Prods. Co., 12 Longworth Ave., Newark, N. J.
Federal Varnish Division, S. Ashland Ave. at 29th St., Chicago
Franklin Research Co., 5134 Lancaster Ave., Phila.
Fuld Bros., 702 S. Wolfe St., Baltimore
Gaskill Products, 9 S. Letitia St., Phila.
Golden Star Polish Mfg. Co., 2901 E. 13th St., Kansas City, Mo.
James Good, Inc., 2116 Susquehanna Ave., Phila.
Gulf Oil Corp., Pittsburgh 30, Pa.
Haag Laboratories, Inc., 140th & Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Philadelphia
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Hull Co., 305 Washington St., Brooklyn
Hunt Mfg. Co., Lisbon Rd., Cleveland
Hysan Products Co., 932 W. 38th Place, Chicago
Imperial Prods. Co., 1600 Fontain St., Phila.
International Metal Polish Co., Indianapolis
Klix Chem. Co., 2460 Third St., San Francisco
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Knox-All Corp., 1005 E. Sumner Ave., Indianapolis
J. S. Lawston Co., 8 Henshaw St., N. Y.
Lewis Soap & Chem. Co., Oakland, Calif.
M. & H. Laboratories, 2703-5 Archer Ave., Chicago
Manhattan Kreole Prods., 172 N. 10th St., Brooklyn
Masury-Young Co., 76 Roland St., Boston
Midland Labs., Dubuque, Ia.
North Coast Soap & Chem. Wks., Seattle, Wash.
Oil Specialties & Refining Co., 18 Bridge St., Bklyn.
Perrow Chemical Co., Hurt, Va.
Pioneer Mfg. Co., 3053 E. 87th St., Cleveland
Puritan Chem. Co., 209 Peters St., S.W., Atlanta
Puritan Soap Co., 573 Lyell Ave., Rochester, N. Y.
Quaker Chem. Prods. Co., Conshohocken, Pa.
Rex-Cleanwall Corp., Brazil, Ind.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Scranton Chem. Co., Scranton, Pa.
Seaboard Distributors, 60 Park Pl., Newark, N. J.

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POLISHES (Contd.)

Selig Co., 336 Marietta St., Atlanta, Ga.
Shawmut Specialty Co., 313 Centre St., Boston
Shell Oil Co., 50 W. 50th St., N. Y.
Shield-All Co., 9918 43rd Ave., Corona, N. Y.
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
Slick-Shine Co., 207 Astor St., Newark, N. J.
E. B. Snyder Labs., 2137 E. Harold St., Phila. 25
Solshine Mfg. Co., 412—2nd St., Fall River, Mass.
S. S. Stafford, Inc., 603 Washington St., N. Y.
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago
Standard Oil Co. (Ohio), Midland Bldg., Cleveland
H. F. Staples Co., Medford, Mass.
Superior Soap Corp., 121 Nostrand Ave., Brooklyn
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Texol Chem. Works, 75 Ward St., Worcester, Mass.
Tesco Chem. Co., P. O. Box 4748, Atlanta
Transmotive Labs., 2550 S. Mich. Ave., Chicago
Trio Chem. Wks., 341 Scholes St., Bklyn.
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Twin City Shellac Co., 340 Flushing Ave., Bklyn.
Twi-Laq Chemical Co., 25 No. Portland Ave., Brooklyn
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Specialties Corp., 1003 S. California Blvd., Chicago 12
Universal Chem. Corp., 35 E. Market St., Akron, O.
Vestal, Inc., 4963 Manchester St., St. Louis 10
Victory Chem. Co., 148 Fairmont Ave., Phila.
T. F. Washburn Co., 2244 Elston Ave., Chicago
Wilco Co., 6800 McKinley Ave., Los Angeles
Windsor Wax Co., 611 Newark St., Hoboken, N. J.
G. H. Wood & Co., Toronto, Canada

POTASH CAUSTIC

(see also Dealers)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
E. I. du Pont de Nemours & Co., Wilmington
Innis, Speiden & Co., 117 Liberty St., N. Y.
Niagara Alkali Co., 60 E. 42nd St., N. Y.
Solvay Sales Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y.
Westvaco Chem. Div., Food Machy. & Chem. Corp., 405 Lexington Ave., N. Y.

POTASH SOAPS (Soft Soaps, Liquid Soaps, Shampoo Soaps, etc.)

Alexander Chem. Co., 511 Willoughby Ave., Bklyn. 6
American Soap & Washoline Co., Cohoes, N. Y.
Ampion Corp., 4-88—7th Ave., L. I. City, N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
Armour Soap Wks., 1355 W. 31st St., Chicago
Arrow Laboratories, 236 W. North Ave., Chicago
Banner Chemical Products Corp., 60 Elm St., Newark, N. J.
Baums Castorine Co., 200 Mathew St,. Rome, N. Y.
Boston Chemical Industries, 64 E. Brookline St., Boston
Bri-Test Prods. Corp., 109 Ave. L, Newark, N. J.
Buckingham Wax Co., 51-03 Van Dam St., L. I. City, N. Y.
Carlstadt Chem. Co., Carlstadt, N. J.
Chemical Mfg. & Distrib. Co., Easton, Pa.
Chemical Service Co., Baltimore
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
Cole Labs., 22-19 37th Ave., L. I. City, N. Y.
James Counts Soap Co., 2nd & Washington Aves., St. Louis, Mo.
Creco Co., Creco Bldg., L. I. City, N. Y.
Cudahy Packing Co., 221 N. La Salle St., Chicago
Davies Young Soap Co., Dayton, Ohio
Eagle Soap Corp., Huntington, Ind.
J. Eavenson & Sons, Del. & Penn Sts., Camden, N. J.
Essential Chemicals, 3286 N. 33rd St., Milwaukee
Fine Organics, Inc., 211 E. 19th St., N. Y. 3
Fuld Bros., 702 S. Wolfe St., Baltimore
Genseke Bros., W. 48th Pl. & Whipple St., Chicago, Ill.
James Good, Inc., 2116 Susquehanna Ave., Phila.
Haag Laboratories, Inc., 140th & Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Philadelphia
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
Hubman Supply Co., 225 N. 4th St., Columbus, Ohio
Hysan Products Co., 932 W. 38th Place, Chicago
Imperial Prods. Co., 1600 Fontain St., Phila.
J. Chemical Works, 602 W. 37th St., N. Y.
Jansen Soap & Chemical Co., 324 Leavenworth St., San Francisco, Cal.
Klix Chem. Co., 2460 Third St., San Francisco
Knox-All Corp., 1005 E. Sumner Ave., Indianapolis
Kranich Soap Co., 54 Richards St., Brooklyn
Lanair Chem. Corp., 236 W. North Ave., Chicago
Laurel Soap Mfg. Co., Tioga & Almond Sts., Philadelphia
Long Island Soap Co., Meeker Ave. & Bridgewater St., Brooklyn
Los Angeles Soap Co., Los Angeles, Calif.
M. & H. Laboratories, 2705 Archer Ave., Chicago
Masury-Young Co., 76 Roland St., Boston
Midland Labs., Dubuque, Ia.
National Soap Co., 357 South 25th St., Tacoma, Wash.
Nopco Chem. Co., Harrison, N. J.
North Coast Chem. & Soap Wks., Seattle, Wash.
N. Y. Soap Co., 258 Third St., Brooklyn
Oil-Kraft, Inc., 3330 Beekman St., Cincinnati
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Piatt & Smillie Chemicals, 2329 Pine St., St. Louis 3
Procter & Gamble Co., Cincinnati, O.
Puritan Soap Co., 573 Lyell Ave., Rochester, N. Y.
Riverside Chem. Co., N. Tonawanda, N. Y.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Rochester Germicide Co., 333 Hollenbeck St., Rochester 5, N. Y.
Royal Soap & Chem. Co., 511 S. Central Ave., Los Angeles
Rubon Woodfinishing & Prods. Co., 500 W. 7th St., Kansas City, Mo.
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Schaeffer Mfg. Co., 102 Barton St., St. Louis
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
E. B. Snyder Labs., 2137 E. Harold St., Phila. 25
Solshine Mfg. Co., 44 Brookline St., Cambridge, Mass.
Standard Oil Co. (Ohio), Midland Bldg., Cleveland
John T. Stanley Co., 642 W. 30th St., N. Y.
Superior Soap Corp., 121 Nostrand Ave., Brooklyn
Tech Soap Co., 125 W. 46th Place, Chicago 9
Tesco Chem. Co., P. O. Box 4748, Atlanta
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Thompson-Hayward Chemical Co., Kansas City, Mo.
Trio Chem. Wks., 341 Scholes St., Bklyn.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Specialties Corp., 1003 S. California Blvd., Chicago 12
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
G. H. Wood & Co., Toronto, Canada
Chas. W. Young & Co., 1247 N. 26th St., Philadelphia

POTASSIUM CARBONATE

American Cyanamid & Chemicals Corp., 30 Rockefeller Plaza, N. Y.
J. T. Baker Chem. Co., Phillipsburg, N. J.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Merck & Co., Rahway, N. J.
Niagara Alkali Co., 60 E. 42nd St., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
Solvay Sales Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y.

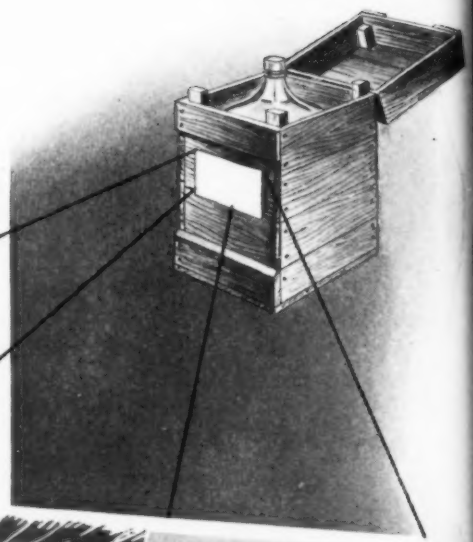
POTASSIUM PERSULFATE

American Cyanamid & Chemicals Corp., 30 Rockefeller Plaza, N. Y.
J. T. Baker Chem. Co., Phillipsburg, N. J.
Buffalo Elec. Chem. Co., River Rd., Buffalo, N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.

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WINTHROP STEARNS

Winthrop-Stearns INC.

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POTASSIUM PERSULFATE (Contd.)

Merck & Co., Rahway, N. J.
Penn. Salt Mfg. Co., Widener Bldg., Phila.
Jos. Turner & Co., Ridgefield, N. J.

POTASSIUM SILICATE

E. I. du Pont de Nemours & Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Philadelphia Quartz Co., Public Ledger Bldg., Independence Sq., Phila. 6
Welch, Holme & Clark Co., 439 West St., N. Y.

POURING SPOUTS (see Can Spouts, Closures)

POWDERED SOAP (see Soap, Powdered) Do not confuse with Soap Powders)

PREMIUMS

Anchor Hocking Glass Corp., Lancaster, O. (glassware)
Goody Mfg. Co., 15 E. 22nd St., N. Y. (novelties)
Hazel-Atlas Co., Wheeling, W. Va. (glassware)
Holgate Co., Kane, Pa. (woodenware toys)
Keystone Processed Prods. Co., 683 Broadway, N. Y.

PRESSES (Automatic Soap)

Chemical & Processing Machy. Corp., 146 Grand St., N. Y. 13 (Used)
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Houchin Machinery Co., Hawthorne, N. J.
R. A. Jones & Co., Covington, Ky.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
A. H. Ross & Co,. P. O. Box 998, Dayton, O.
Stein Equipment Co., 90 West St., N. Y. (Used)

PRESSES (Foot and Hand Lever for Soap and Para Cakes)

Chemical & Processing Machy. Corp., 146 Grand St., N. Y. 13 (Used)
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259 46th St., Brooklyn
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago
Stein Equipment Co., 90 West St., N. Y. (Used)
F. J. Stokes Mach. Co., Philadelphia, Pa.

PRIVATE FORMULAS (see under individual products)

PRIVATE LABEL PACKAGING, FILLING (see Packaging for the trade)

PROPELLENTS, (see Aerosol Dispersants)

PUMICE

California Industrial Minerals Co., Friant, Calif.
Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Heckathorn & Co., Richmond Calif.
Pacific Coast Pumice Co., Bishop, Calif.
Pumice Corp. of America, Grants, N. M.
Wm. P. Rogers, 80 Park St., Beverly, Mass.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
Tamms Silica Co., 228 N. La Salle St., Chicago
Chas. A. Wagner Co., 813 Callowhill St., Phila.
Whittaker, Clark & Daniels, 260 W. Bway., N. Y.

PUMPS

Aldrich Pump Co., 1 Pine St. Allentown, Pa.
Allied Steel & Equipt. Co., Chester, N. J.
Alsop Engineering Corp., 103 Green St., Milldale, Conn.
American Steam Pump Co., Battle Creek, Mich.
Beach-Russ Co., 50 Church St., N. Y.
Blackmer Pump Co., Grand Rapids, Mich.
S. F. Bowser & Co., Ft. Wayne, Ind.
Buffalo Forge Co., 490 Broadway, Buffalo, N. Y.
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
M. T. Davidson Co., 154 Nassau St., N. Y.
Eastern Engineering Co., 45 Fox St., New Haven, Conn.
Eco Mfg. Co., 12 New York Ave., Newark, N. J.
Filter Paper Co., 2464 S. Michigan Ave., Chicago
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Foster Pumps, Inc., 51 Washington St., Brooklyn, N. Y.
Goulds Pumps, Inc., Seneca Falls, N. Y.
Joshua Hendy Iron Wks., Pomona, Calif.
Houchin Machinery Co., Hawthorne, N. J.
Ingersoll-Rand Co., 11 Broadway, N. Y.
Jabsco Pump Co., 2031 N. Lincoln St., Burbank, Calif.
Karl Kiefer Machine Co., 919 Martin St., Cincinnati
Lobee Pump & Machine Co., Buffalo, N. Y.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Oberdorfer Foundries, Inc., 5100 Thompson Rd., Syracuse, N. Y.
H. K. Porter Co., Oliver Bldg., Pittsburgh
Scientific Filter Co., 12 Franklin Square, N. Y.
T. Shriver & Co., Harrison, N. J.
Stein Equipment Co., 90 West St., N. Y. (Used)
F. J. Stokes Machine Co., Philadelphia, Pa.
Taber Pump Co., 278 Elm St., Buffalo, N. Y.
Valley Foundry & Mach. Co., 710 H St., Fresno 10, Calif.
Viking Pump Co., Cedar Falls, Iowa
Worthington Pump & Machinery Co., 2 Park Ave., N. Y.

PYRETHRUM FLOWERS AND POWDER (Insect Powder)

An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Cal.
Derris, Inc., 79 Wall St., N. Y.
Greene Trading Co., 70 Pine St., N. Y. (agents for foreign sellers)
Hammond Paint & Chemical Co., Beacon, N. Y.
J. L. Hopkins & Co., 220 Broadway, N. Y.
McCormick & Co., Baltimore, Md.
McLaughlin, Gormley King Co., 1715 Fifth St., S.E., Minneapolis, Minn.
S. B. Penick & Co., 50 Church St., N. Y.
John Powell & Co., 1 Park Ave., N. Y.
R. J. Prentiss & Co., 110 William St., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
U. S. Industrial Chemicals, Inc., 60 E. 42nd St., N. Y.

PYRETHRUM EXTRACT

An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Cal.
Hammond Paint & Chemical Co., Beacon, N. Y.
J. L. Hopkins & Co., 220 Broadway, N. Y.
McCormick & Co., Baltimore
McLaughlin Gormley King Co., 1715 Fifth St., S.E., Minneapolis
S. B. Penick & Co., 50 Church St., N. Y.
John Powell & Co., 1 Park Ave., N. Y.
R. J. Prentiss & Co., 110 William St., N. Y.
U. S. Industrial Chemicals, Inc., 60 E. 42nd St., N. Y.

PYROPHYLLITE

Attapulgus Clay Co, 210 W. Washington Sq., Phila.
Carolina Pyrophyllite Co., 10 E. 40th St., N. Y.
Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Dicalite Co., 756 S. Broadway, Los Angeles, Cal.
Kennedy Minerals Co., 2550 E. Olympic Blvd., Los Angeles, Cal.
Pioneer Pyrophylite Producers, P. O. Box 686, Chulavista, Cal.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
Tamms Silica Co., 229 N. LaSalle St., Chicago
R. T. Vanderbilt Co., 230 Park Ave., N. Y.
Whittaker, Clark & Daniels, 260 W. Bway., N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.

QUATERNARY AMMONIUM COMPOUNDS (see also Disinfectants, Quaternary Ammonium)

Alrose Chem. Co., Box 1294, Providence, R. I.
Armour & Co., 1355 W. 31st St., Chicago 9
J. T. Baker Chemical Co., Phillipsburg, N. J.
Carlstadt Chem. Co., Carlstadt, N. J.
Cowles Chemical Co., 7016 Euclid Ave., Cleveland 3
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
E. I. du Pont de Nemours & Co., Wilmington
Emulsol Corp., 59 E. Madison St., Chicago
Fairfield Labs., Inc., 417 Cleveland Ave., Plainfield, N. J.



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Operators of restaurants, soda fountains and bars frequently object to chlorine-liberating sanitizers because of the odor and taste these disinfectants may impart to glasses, chinaware and metal utensils.

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In addition to their outstanding germicidal qualities, disinfectants based on HYAMINE 1622 offer other important advantages that appeal to users in the restaurant, bar and soda fountain trade:

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Non-irritating—Will not injure workers' hands.

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Fine Organics, 211 E. 19th St., N. Y. 3
Hooker Electrochemical Co., Niagara Falls, N. Y.
Merck & Co., Rahway, N. J.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis
Nopco Chemical Co., Harrison, N. J.
Onyx Oil & Chem. Co., Jersey City, N. J.
Penna. Salt Mfg. Co., Widener Bldg., Phila.
Richards Chem. Co., Jersey City, N. J.
Rohm & Haas, 222 W. Washington Sq., Phila.
E. B. Snyder Labs., 2137 E. Harold St., Philadelphia
Winthrop-Stearns, Inc., 170 Varick St., N. Y.

QUATERNARY AMMONIUM DISINFECTANTS
(See Disinfectants, Quaternary Ammonium)

RAPESEED OIL

Balfour, Guthrie & Co., 67 Wall St., N. Y.
Irving R. Boody & Co., 120 Wall St., N. Y.
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Otto A. C. Hagen Corp., Public Ledger Bldg., Phila.
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco
J. H. Redding, Inc., 17 Battery Pl., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
Werner G. Smith Co., 2191 W. 110th St., Cleveland
Smith-Weihman Co., 15 Moore St., N. Y.
Arthur C. Trask Co., 4103 S. La Salle St., Chicago
Welch, Holme & Clark Co., 439 West St., N. Y.

RAT EXTERMINATING PRODUCTS

An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Calif.
Barton Chem. Co., 3907 S. Langley Ave., Chicago
Cenol Co., 4250 N. Pulaski Ave., Chicago
Chem. Service Co. of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Corn King Co., Cedar Rapids, Ia.
E. I. du Pont de Nemours & Co., Wilmington
Eagle Soap Corp., Huntington, Ind.
Elkay Products Co., 323 W. 16th St., N. Y.
Exterminating Materials Co., 555 W. 22nd St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Goulard & Olena, Inc., Skillman, N. J.
Foote Mineral Co., 1609 Summer St., Philadelphia
Heckathorn & Co., Richmond, Calif.
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Hysan Products Co., 932 W. 38th Place, Chicago
Imperial Prods. Co., 1600 Fontain St., Phila.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Ketoid Chem. Co., 339 S. Van Deventer, St. Louis
Lethelin Products Co., Mt. Vernon, N. Y.
Lewis Soap & Chem. Co., 2210 San Pablo Ave., Oakland, Calif.
O. E. Linck Co., 51 James St., Montclair, N. J.
Maywood Pest Exterminators, Maywood, Ill.
Monsanto Chem. Co., 1700 S. 2nd St., St. Louis
John Opitz, Inc., 50-14 39th St., Long Island City, N. Y.
S. B. Penick & Co., 50 Church St., N. Y. C.
Per-Mo Products Co., 3604 Woodland Ave., Kansas City, Mo.
Pest Control Supply Co., 210 N. Western Ave., Los Angeles
Pfaltz & Bauer, Inc., 350 Fifth Ave., N. Y.
Pittsburgh Agr. Chem. Co., 350 Fifth Ave., N. Y.
John Powell & Co., 1 Park Ave., N. Y.
R. J. Prentiss & Co., 110 William St., N. Y.
Ratin Laboratories, Inc., 112 Broad St., N. Y.
Sennewald Drug Co., 2721 Chouteau Ave., St. Louis
Sparhawk Co., Sparkill, N. Y.
Sur-Rid Prods. Co., 455 Paul Brown Bldg. St. Louis
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Specialties Corp., 1003 S. California Blvd., Chicago 12
Victory Chem. Co., 148 Fairmount Ave., Philadelphia
Warren Chemical Prods. Co., 1138 Main Ave., N.W., Warren, O.
York Chemical Co., 23 Dean St., Bklyn.

RAT POISONS (see Squills, Phosphorus Paste, Thallium Sulfate, etc.)

RED OIL (Oleic Acid)

(see also Brokers and Dealers)

American British Chem. Supplies, Inc., 180 Madison Ave., N. Y.
American Cyanamid & Chemicals Corp., 30 Rockefeller Plaza, N. Y.
Armour Chem. Div., 1355 W. 31st St., Chicago
Arnold, Hoffman & Co., Providence, R. I.
Celina Stearic Acid Co., Celina, Ohio
Century Stearic Acid Candle Works, 41 E. 42nd St., N. Y.
Darling & Co., 4201 S. Ashland Ave., Chicago
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Eastern Industries, Ridgefield, N. J.
Emery Industries, Inc., 4300 Carew Tower, Cincinnati
Griffin Chem. Co., 1000 16th St., San Francisco
A. Gross & Co., 295 Madison Ave., N. Y.
Otto A. C. Hagen, Public Ledger Bldg., Philadelphia
W. C. Hardesty Co., 41 E. 42nd St., N. Y.
Procter & Gamble Co., Cincinnati
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
Theobald Industries, Kearny, N. J.
Arthur C. Trask Co., 4108 S. La Salle St., Chicago
Welch, Holme & Clark Co., 439 West St., N. Y.
M. Werk Co., St. Bernard, Cincinnati
Wilson-Martin Co., Snyder Ave. & Swanson St., Philadelphia
Woburn Chem. Corp., Harrison, N. J.

REFINING EQUIPMENT (Glycerine)

E. B. Badger Co., 25 Pitts St., Boston
Buffalo Foundry & Machine Co., Buffalo, N. Y.
Chemical & Processing Machy. Corp., 146 Grand St., N. Y. 13 (Used)
Consolidated Prods. Co., 15 Park Row, U. Y. (Used)
First Machy. Corp., 157 Hudson St., N. Y. (Used)
William Garrigue & Co. 9 S. Clinton St., Chicago
Alan Porter Lee, Inc., 150 Broadway, N. Y.
Lancaster Iron Works, 564 S. Prince St., Lancaster, Pa.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Ernest Scott & Co., Fall River, Mass.
Struthers-Wells Co., Warren, Pa.
Walter E. Simmons Co., Boston
Stein Equipment Co., 90 West St., N. Y. (Used)
Swenson Evaporator Co., Harvey, Ill.
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chicago

REFRIGERATING EQUIPMENT

H. Loeb & Son., 4600 Lancaster Ave. ,Philadelphia
York Ice Machine Co., York, Pa.

REMELTERS

Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259 46th St., Brooklyn
Lancaster Iron Works, 564 S. Prince St., Lancaster, Pa.
Patterson Foundry & Mach. Co., East Liverpool, O.
Patterson-Kelley Co., East Stroudsburg, Pa.
Struthers-Wells Co., Warren, Pa.
Wurster & Sanger, Inc., 5201 Kenwood Ave., Chicago

RESINS, SYNTHETIC

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Bakelite Corp., 300 Madison Ave., N. Y.
Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Crosby Chemicals, Inc., De Ridder, La.
Dow Chemical Co., Midland, Mich.
Durez Plastics, Inc., North Tonawanda, N. Y.
Hercules Powder Co., Wilmington, Del.
General Electric Co., Bridgeport, Conn.
General Mills, Chemical Co., 400 2nd Ave., Minneapolis 1
Krumbhaar Chemicals, Inc., South Kearny, N. J.
Monsanto Chem. Co., 1700 S. 2nd St., St. Louis
Neville Co., Pittsburgh, Pa.
Paramet Div., Libbey-Owens-Ford Glass Co., Toledo
Publicker Industries, 1429 Broad St., Phila. 2
Reilly Tar & Chem. Corp., Indianapolis
Reichhold Chemicals, Inc., Detroit
Resinous Prods. & Chem. Corp., 222 W. Washington Sq., Philadelphia


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Mine Safety Appliances Co., Braddock and Thomas Sts., Pittsburgh

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ROACH POWDERS (see Household Insecticides, Powder)

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ROSEMARY OIL (see Essential Oils)

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Antwerp Naval Stores Co., Savannah, Ga.
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Continental Turp. & Rosin Corp., Laurel, Miss.
Crosby Chemicals, Inc., De Ridder, La.
Dixie Pine Prods. Co., Hattiesburg, Miss. (wood)
General Mills, Chemical Div., 400 2nd Ave., Minneapolis 1
Georgia Rosin Prods. Co., Brunswick, Ga.
Glidden Co., Naval Stores Div., P. O. Box 380, Jacksonville, Fla.
Hercules Powder Co., Wilmington, Del. (wood)
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Newport Industries, Inc., 230 Park Ave., N. Y.
Phoenix Naval Stores Co., Gulfport, Miss. (wood)
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
Southern Pine Chem. Co., Box 389, Jacksonville
Taylor, Lowenstein & Co., Mobile, Ala.
Wax & Rosin Prods., 42 Broadway, N. Y.
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G. A. Wharry & Co., 95 Broad St., N. Y. 4

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Chemical Mfg. & Dist. Co., Easton, Pa.
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Crosby Chemicals, Inc., Inc., Deridder., La.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
E. F. Drew & Co., 152 E. 26th St., N. Y. 10
James Good, Inc., 2116 E. Susquehanna Ave., Philadelphia
Haskins Bros. & Co., Omaha
Hercules Powder Co., Wilmington
Kamen Soap Prod., Co., 233 Broadway, N. Y. 7
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Quaker Chemical Prods. Co., Conshohocken, Pa.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Trio Chem. Wks., 341 Scholes St., Bklyn 6
G. H. Wood & Co., Toronto, Ont., Canada
Chas. W. Young & Co., 1247 N. 26th St., Philadelphia

ROTENONE FORMULATIONS (see also Derris)

Agicide Laboratories, 1717 Taylor Ave., Racine, Wis.
American-British Chem. Supplies, 180 Madison Ave., N. Y. 16
California Spray-Chemical Corp., Lucas & Ortho Way, Richmond, Calif.
Chipman Chem. Co., Bound Brook, N. J.
Derris, Inc., 79 Wall St., N. Y.
Hammond Paint & Chem. Co., Beacon, N. Y.
Heckathorn & Co., Richmond, Calif.
Jooster & Janssen, 132 Front St., N. Y.
Ketoid Chem. Co., 549 W. Washington, Chicago
Lenape Trading Co., 233 Broadway, N. Y.
McCormick & Co., Baltimore, Md.
Orbis Products Corp., 215 Pearl St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y.
John Powell & Co., 1 Park Ave., N. Y.
R. J. Prentiss & Co., 110 William St., N. Y.
U. S. Indus. Chemicals, Inc., 60 E. 42nd St., N. Y.
Whitmire Research Corp., 339 Vandeventer, St. Louis

ROTTEN STONE (see Abrasives and Fillers)

RUBBER STOPPERS (see Laboratory Apparatus)

RUG and UPHOLSTERY CLEANERS

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Ampion Corp., 4-88—47th Ave., L. I. City, N. Y.
Antara Prods., 444 Madison Ave., N. Y. 22
Bri-Test Prods. Corp., 845 E. 138th St., New York
Buckingham Wax Corp., Van Dam St. & Borden Ave., L. I. City
Candy & Co., 2515 W. 35th St., Chicago
Carlstadt Chem. Co., Carlstadt, N. J.
Chemical Mfg. & Dist. Co., Easton, Pa.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prod. Co., 3100 S. Throop St., Chicago 8
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
Cole Laboratories, 22-19 37th Ave., L. I. City, N. Y.
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
Davies-Young Soap Co., Dayton, O.
Eagle Soap Corp., Huntington, Ind.
Fine Organics, Inc., 211 E. 19th St., N. Y. 3
Fuld Bros., 702 S. Wolfe St., Baltimore
Gaylord Chem. Co., 701 Woodswether Rd., Kansas City
James Good, Inc., 2116 Susquehanna Ave., Phila.
Haag Laboratories, Blue Island, Ill.
Higley Chem. Co., Dubuque, Iowa
Hild Floor Machine Co., 1313 W. Randolph St., Chicago
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Arnold Hoffman Co., Providence, R. I.
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Imperial Prods. Co., 1600 Fontain St., Phila.
Kwik Products Co., 451 W. 28th St., N. Y.
Lorenz Chem. Co., 135 N. 22nd Ave., Omaha
M & H Laboratories, 2705 Archer Ave., Chicago
M. Michel & Co., 90 Broad St., N. Y.
Midland Labs., Dubuque, Ia.
Multi-Clean Prods., Inc., 2277 Ford P'kway, St. Paul, Minn.
Nopco Chem. Co., Harrison, N. J.
Onyx Oil Chem. Co., Warren & Morris Sts., Jersey City 2
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Per-Mo Products Co., 3604-B Woodland Ave., Kansas City
Rex-Cleanwall Corp., Brazil, Ind.
Theo. B. Robertson Prods. Co. 700 W. Division St., Chicago
E. B. Snyder Labs., 2137 E. Harold St., Philadelphia
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
Tech Soap Co., 125 W. 46th Pl., Chicago
Tesco Chem. Co., P. O. Box 4748, Atlanta
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Texol Chem. Works, 75 Ward St., Worcester, Mass.
Thompson-Hayward Chem. Co., Kansas City, Mo.
Transmotive Labs., 2550 S. Michigan Ave., Chicago
Trio Chem. Wks., 341 Scholes St., Bklyn.
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Specialties Corp., 1003 S. California Blvd., Chicago 12
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Liquid and Dry Concentrates for Widely Diversified End-Uses

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Pressurized & Thermal: 4, 5, 13, 14, 15

AGRICULTURAL INSECTS:
(a) Sprays: 20, 22, 23, 24, 27, 31, 32
(b) Dusts: 16, 18, 19, 21, 28, 29, 30

CATTLE: Dairy: 1, 2, 4, 7
Dips: 30
Flies: 1, 2, 4, 7, 22, 23
Grubs: 9, 30
Lice: 9

DUSTS: Agricultural: 16, 18, 19, 21, 28, 29, 30
Household & Industrial: 17, 28, 29
Intermediates: 19, 28, 29, 30

EMULSIONS: 7, 9, 11, 31, 32

FOOD PROCESSING PLANTS:
1, 2, 3, 4, 5, 7, 13, 14, 15, 22, 23, 24

GARDEN INSECTS: (See Agricultural Insects)

GRAIN INSECTS: 7, 8, 9, 10

HOUSEHOLD INSECTS:
Sprays & Aerosols: 1, 2, 3, 4, 5, 6, 13, 14, 15, 22, 23, 24, 25, 26
Dusts: 16, 18, 19, 28, 29

INDUSTRIAL SPRAYS: 1, 2, 3, 4, 5, 7, 8, 9

LIVESTOCK SPRAYS: 1, 2, 3, 4, 7, 9, 22, 23, 24

MILL SPRAYS: 5, 7, 8, 9, 10, 22, 23, 24

OIL SPRAYS: 1, 2, 3, 4, 5, 6, 8, 10, 12, 22, 23

REPELLENTS: 35, 36, 37

RESIDUAL SPRAYS: 5, 7, 8, 9

TRUCK GARDEN INSECTS: See Agricultural Insects

WETTABLE POWDERS: 11, 31

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7. Pyrenone* R.E. 50-5
8. Pyrenone* O.T. 50-5
9. Pyrenone* R.E. 60-3
10. Pyrenone* O.T. 60-3
11. Pyrenone* R.E. 666
12. Pyrenone* O.T. 666
13. Pyrenone* Aerosol Concentrate 40-5
14. Pyrenone* Aerosol Concentrate 30-6
15. Pyrenone* Aerosol Concentrate 20-8
16. Pyrenone* Dust Base 100
17. Pyrenone* Dust Base 160
18. Pyrenone* Dust Base 200
19. Cyclonone Dust Base #5
20. CPR Liquid Base
21. CPR Dust Base
22. Pyrethrum Extract 20
23. Pyrethrum Extract 40
24. Pyrethrum Extract 100
25. Purified Pyrethrum Extract 10%
26. Purified Pyrethrum Extract 20%
27. Pyrethrum Oleoresins 20%
28. Pyrethrum Powder (1% basis)
29. Pyretox 100
30. Rotenone Powder (5% basis)
31. Rotenone Resins (30% basis)
32. Rotessenol A.G. Concentrate
33. Tech. Piperonyl Butoxide
34. Tech. Piperonyl Cyclonone

REPELLENTS

35. Indalone*
36. Triple Mix Repellent Liquid
37. Triple Mix Repellent Cream

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Wilco Co., 6800 McKinley Ave., Los Angeles
G. H. Wood & Co., Toronto, Ont., Canada
Wyandotte Chemicals Corp., Wyandotte, Mich.
Chas. W. Young & Co., 1247 N. 26th St., Philadelphia

SADDLE SOAP

Armour & Co., 1355 W. 31st St., Chicago
Asco Chemical Co., 641 Lexington Ave., Brooklyn
Baum's Castorine Co., Rome, N. Y.
Chem. Service Co. of Balto., Howard & West Sts., Balto.
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
Davies-Young Soap Co., Dayton, O.
James Good, Inc., 2116 Susquehanna Ave., Phila.
Harley Soap Co., Pierce & Orthodox Sts., Philadelphia
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Lorenz Chem. Co., 135 N. 32nd Ave., Omaha
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Theo. B. Robertson Prods. Co.,
700 W. Division St., Chicago
Rome Soap Mfg. Co., Rome, N. Y.
John T. Stanley Co., 642 W. 30th St., N. Y.
Superior Soap Corp, 121 Nostrand Ave., Brooklyn
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Windsor Wax Co., 611 Newark St., Hoboken, N. J.
G. H. Wood & Co., Toronto, Ont., Canada

SAL AMMONIAC (see Ammonium Chloride)

SAL SODA

(see also Dealers)

American Cyanamid & Chemicals Corp.
30 Rockefeller Plaza, N. Y.
Church & Dwight Co., 70 Pine St., N. Y.
Diamond Alkali Co., 300 Union Commerce Bldg.,
Cleveland 14
E. I. du Pont de Nemours & Co., Wilmington, Del.
Emeryville Chem. Co., 405 Montgomery St.,
San Francisco
General Chemical Div., Allied Chem. & Dye Corp., 40
Rector St., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mathieson Chemical Corp., 60 E. 42nd St., N. Y.
Mechling Bros. Chemical Co., Camden, N. J.
Pittsburgh Plate Glass Co., Columbia Chem. Div.,
5th & Bellefield, Pittsburgh 13
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Solvay Sales Div., Allied Chem. & Dye Corp., 40 Rector
St., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y.

SALT (Common Salt)

(see also Dealers)

Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dow Chemical Co., Midland, Mich.
International Salt Co., 475 Fifth Ave., N. Y.
Jefferson Salt & Mining Co., Louisville, Ky.
LeRoy Salt Co., LeRoy, N. Y.
Michigan Chem. Corp., St. Louis, Mich.
Myles Salt Co., 1007 Camp St., New Orleans, La.
Penna. Salt Mfg. Co., Widener Bldg., Phila.
Pittsburgh Plate Glass Co., Columbia Chem. Div.,
5th & Bellefield, Pittsburgh 13
Pomeroy Salt Co., Pomeroy, Ohio
Remington Salt Co., Ithaca, N. Y.
Saginaw Salt Prods. Co., Saginaw, Mich.
Solvay Sales Div., Allied Chem. & Dye Corp., 40 Rector
St., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y.

SALT WATER SOAP (Marine Soaps)

Antara Prods., 444 Madison Ave., N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
Armour Soap Wks., 1355 W. 31st St., Chicago
Buck-Jack Co., 3056 Federal St., Baltimore
Carlstadt Chem. Co., Carlstadt, N. J.
Chemical Service Co. of Baltimore, Howard & West Sts.,
Baltimore 30
Chicago Sanitary Prods. Co., 3100 S. Throop St.,
Chicago 8
J. Eavenson & Sons, Camden, N. J.
Hewitt Soap Co., Dayton, O.
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Kamen Soap Prods., Woolworth Bldg., N. Y.
Los Angeles Soap Co., Los Angeles
MacKenzie Labs., Front & Yarnell Sts., Chester, Pa.
Miranol Chemical Co., 16 Melville Pl., Irvington, N. J.
Newell-Gutradt Co., San Francisco
Onyx Oil & Chem. Co., Warren & Morris Sts.,
Jersey City 2
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Co., Cincinnati, O.
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
M. Werk Co., Cincinnati

SAMPLE CASES

Arrow Mfg. Co., 15th & Hudson Sts., Hoboken, N. J.
Knickerbocker Case Co., 2311 N. Crawford Ave., Chicago

SAND URNS

Atlas Prods. Co., 9239 S. Houston Ave., Chicago 17
Compco Corp., 2251 W. St. Paul Ave., Chicago 47
Ex-Cell Prods. Corp., 1233 S. Wabash Ave., Chicago 5
J. H. Lawson Co., 800 Evans St., Cincinnati 4, O.
Rochester Can Co., 8 Greenleaf St., Rochester 9, N. Y.

SANDALWOOD OIL (see Essential Oils)

SAPONIN (Ext. Soap Bark)

Dodge & Olcott, Inc., 180 Varick St., N. Y.
A. C. Drury & Co., 219 East North Water St., Chicago
Enco Chem. Corp., 441 Lexington Ave., N. Y.
Florasynth Labs., 1513 Olmstead Ave., Bronx, N. Y.
Fritzsche Brothers, Inc., 76 Ninth Ave., N. Y.
Hoffman-La Roche, Inc., Nutley, N. J.
Interstate Color Co., 5 Beekman St., N. Y.
Geo. Lueders & Co., 427 Washington St., N. Y.
Magnus, Mabee & Reynard, 16 Debrosses St., N. Y.
Merck & Co., Rahway, N. J.
S. B. Penick & Co., 50 Church St., N. Y.
R. J. Prentiss & Co., 110 William St., N. Y.
Robinson Wagner Co., 110 E. 42nd St., N. Y
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
Schimmel & Co., 601 W. 26th St., N. Y.
Ungerer & Co, 161 Sixth Ave., N. Y.

SASSAFRAS, Artificial (see Aromatic Chemicals)

SCALES (see Weighing Equipment)

SCOURING POWDERS

American Soap Powder Wks., Inc., 98 Van Dyke St.,
Brooklyn
American Soap & Washoline Co., Cohoes, N. Y.
Armour & Co., 1355 W. 31st St., Chicago
Baum's Castorine Co., 200 Mathew St., Rome, N. Y.
Buck-Jack Co., 3056 Federal St., Baltimore
Chemical Mfg. & Distrib. Co., Easton, Pa.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Churchill Mfg. Co, Galesburg, Ill
Clarkson Co., 919 N. 9th St., Phila. 23
Colgate-Palmolive-Peet Co., Jersey City, N. J.
Cudahy Packing Co., 221 N. La Salle St., Chicago
Du Bois Soap Co., Cincinnati O.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Hercules Powder Co., Wilmington, Del.
Higley Chem. Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Hysan Prods., 932 W. 38th Place, Chicago
Imperial Products Co., 1600 Fontain St., Phila.

"SUDS-STANTIAL"

Our Quality Quotient

The Spray Way

The HEART of STEVENS SOAP POWDER



Quite frankly the Spray Way was set up as an economical means of production, but it was found that uniformity resulted and air pockets kept Stevens soap powders free-flowing.

Combined with laboratory control of all ingredients we believe Stevens Soap Powders are superior products with real sales appeal. They merit your investigation.

Made in four grades ranging in anhydrous soap content from 6% to 25%. Packed in 100 lb. bags — 100 and 200 lb. drums — 2½ and 1 lb. packages. There is a grade and packing that fits your customer's need and pocketbook.

Stesco Dishwashing Powder — A crystallized homogeneous combination of silicates and complex phosphates designed to do a real job on dishes and keep the washing machine clean without corrosion of machine parts.

Stesco Glass Cleaner — Made in two types, sudsy and sudless, these products are excellent for the bar trade or hand dishwashing where hard water prevails.

Thank you for your inquiry.

STEVENS SOAP CORPORATION

194-216 Sullivan St. Brooklyn 31, N. Y.

SCOURING POWDERS (Contd.)

Jansen Soap & Chemical Co., 324 Leavenworth St., San Francisco, Cal.
Kamen Soap Prods. Co., Woolworth Bldg., N. Y.
Kearny Mfg. Co., Kearny, N. J.
Los Angeles Soap Co., 617 E. First St., Los Angeles
MacKenzie Labs., Front & Yarnall Sts., Chester, Pa.
Midland Labs., Dubuque, Ia.
Murro Chemical Co., Asheville, N. C.
National Milling & Chem. Co., Manayunk, Philadelphia
Pacific Chem. Co., 1412 N. Main St., Los Angeles
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Penna. Salt Mfg. Co., Widener Bldg., Philadelphia
Pittsburgh Plate Glass Co., Columbia Chemical Div., 5th & Bellefield, Pittsburgh 13
Port Huron Detergent Co., Port Huron, Mich.
Procter & Gamble Co., Cincinnati
Puritan Chem. Co., 209 Peters St., S.W., Atlanta
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
E. B. Snyder Labs., 2137 E. Harold St., Philadelphia 25
Solvay Sales Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
S. & S. Soap Co., 324 Barretto St., Bronx, N. Y.
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
John T. Stanley Co., 642 W. 30th St., N. Y.
Stevens Soap Corp., 200 Sullivan St., Brooklyn
Swift & Co., Chicago
Tesco Chem. Co., P. O. Box 4728, Atlanta
Texas Soap Mfg. Corp., Houston, Texas
U. S. Sanitary Specialties Corp., 1003 S. California Blvd., Chicago 12
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
Warwick Wax Co., 10-10 44th Ave., L. I. C. 1, N. Y.
G. H. Wood & Co., Toronto, Ont., Canada
Allen B. Wrisley Co., 601 W. 65th St., Chicago
Wyandotte Chem. Corp., Wyandotte, Mich.
Chas. W. Young & Co., 1247 N. 26th St., Philadelphia

SCOURING SOAPS (Bars)

American Soap & Washoline Co., Cohoes, N. Y.
Armour Soap Works, 1355 W. 31st St., Chicago
Baum's Castorine Co., Rome, N. Y.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Cudahy Packing Co., 221 N. La Salle St., Chicago
James Good, Inc., 2116 E. Susquehanna Ave., Philadelphia
Hewitt Soap Co., Dayton, O.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Los Angeles Soap Co., Los Angeles
National Soap Co., P. O. Box 1631, Tacoma, Wash.
Peck's Products Co., 610 E. Clarence Ave., St. Louis
Port Huron Detergent Co., Port Huron, Mich.
Procter & Gamble Co., Cincinnati, O.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Schmidt Soap Products Co., 236 W. North Ave., Chicago
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago
Chas. W. Young & Co., 1247 N. 26th St., Phila.

SCREENS (Screening and Sifting Equipment)

Allied Steel & Equipt. Co., Chester, N. J.
C. O. Bartlett & Snow Co., 6200 Harvard Ave., Cleveland, O.
B. F. Gump Co., 412 S. Clinton St., Chicago
J. H. Day Co., 1100 Harrison Ave., Cincinnati
J. M. Lehmann Co., Lyndhurst, N. J.
Ludlow-Sayer Wire Co., St. Louis, Mo.
Orville Simpson Co., 1230 Knowlton St., Cincinnati
Simplicity Engineering Co., Durand, Mich.
Sprout, Waldron & Co., Muncy, Pa.
Stedman's Fdy. & Machine Works, Aurora, Ind.
Stein Equipment Co., 90 West St., N. Y. (Used)
Stephens-Adamson Mfg. Co., Aurora, Ill.
Sturtevant Mill Co., Boston, Mass.
W. S. Taylor Co., Cleveland, O.
Wickwire Spencer Steel Co., 500—5th Ave., N. Y.

SCRUBBING MACHINES (see Floor Machines)

Expired?

WHEN YOU RECEIVE A NOTICE THAT YOUR SUBSCRIPTION TO *SOAP & SANITARY CHEMICALS* IS ABOUT TO EXPIRE, WILL YOU PLEASE SEND IN THAT OLD RENEWAL CHECK PRONTO? *SOAP & SANITARY CHEMICALS* IS A MEMBER OF THE A. B. C. (AUDIT BUREAU OF CIRCULATION) AND IF YOU DO NOT RENEW PROMPTLY, WE HAVE TO TAKE YOUR NAME OFF THE SUBSCRIPTION LIST . . . (A.B.C. RULE) . . . DON'T MISS ANY ISSUES . . . SEND IN YOUR CHECK PROMPTLY . . . $4.00 FOR ONE YEAR, $7.00 FOR TWO . . . FOREIGN SUBSCRIPTIONS $5.00 FOR ONE YEAR, $9.00 FOR TWO.

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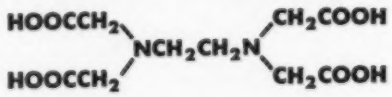
- Cloudless liquid soap?
- Scumless hard water soap?
- Rug and upholstery shampoos free from after-use odors?
- Improved soap in foaming, detergency and rinsing?
- Clear liquid alkali detergents, superior dairy cleaners, also formulate sanitizing and disinfecting agents that are not affected by hard water?

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Available as the technically pure acid (for making potassium and amine salts), disodium and tetrasodium salts of

ETHYLENEDIAMINE TETRA ACETIC ACID



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LITERATURE AVAILABLE:

Technical bulletin: SEQUESTRENE (22pp)

Technical bulletin: Effect of Sequestrene on Soap Detergency

Reprint: Organic sequestering agents: Their use in soap products (Soap & Sanitary Chemicals, 24:57)

**U. S. Patents—2,130,505 and 2,240,957*

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CHEMICAL COMPANY

PROVIDENCE 1, R. I. BOX 1294-E

SCRUBBING SOAPS, LIQUID (see Floor Scrub Soaps)

SEALING MACHINERY (Bags)

Allied Steel & Equipt. Co., Chester, N. J.
Bagpak, Inc., 220 E. 42nd St., N. Y. 17
B. F. Gump Co., 412 S. Clinton St., Chicago
New Jersey Machine Corp., Hoboken, N. J.
Stokes & Smith Co., 4915 Summerdale Ave., Philadelphia
Weigh Right Automatic Scale Co., Joliet, Ill.

SEALING MACHINERY (Cartons)

Allied Steel & Equipment Co., Chester, N. J.
Burt Machine Co., 401 E. Oliver St., Baltimore
Chemical & Process Mchy. Corp., 146 Grand St., N. Y. 13 (Used)
Consolidated Products Co., 15 Park Row, N. Y. (Used)
J. L. Ferguson Co., Joliet, Ill.
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Hornney & Co., 420 Lexington Ave., N. Y.
Houchin Machinery Co., Hawthorne, N. J.
Johnson Automatic Sealer Co., Battle Creek, Mich.
R. A. Jones & Co., Covington, Ky.
Karl Kiefer Machine Co., 919 Martin St., Cincinnati
New Jersey Machine Corp., Hoboken, N. J.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., North Quincy, Mass.
F. B. Redington Co., 112 S. Sangamon St., Chicago
Stein Equipment Corp., 90 West St., N. Y. (Used)
Stokes & Smith Co., 4915 Summerdale Ave., Philadelphia
Triangle Package Machinery Co., 6633 W. Diversey Blvd., Chicago
Weigh Right Automatic Scale Co., Joliet, Ill.

SEEDS, POISONED (see Poisoned Seeds)

SEQUESTERING AGENTS

Alrose Chem. Co., Box 1294, Providence, R. I.
Antara Prods., 444 Madison Ave., N. Y. 22
Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14
General Dyestuff Corp., 435 Hudson St., N. Y.
Quaker Chem. Prods. Co., Conshohocken, Pa.
Refined Prods. Corp., Lyndhurst, N. J.
Solvay Sales Div., Allied Chemical & Dye Corp., 40 Rector St., N. Y. 6
Wyandotte Chemicals Corp., Wyandotte, Mich.

SESQUICARBONATE OF SODA (for Bath Salts, etc.), (see Sodium Sesquicarbonate)

SHAMPOO BASE and LIQUID (SOAP BASE)

Ampion Corp., 4-88 47th Ave., L. I. City, N. Y.
Antara Prods., 444 Madison Ave., N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
Armour Soap Wks., 1355 W. 31st St., Chicago
Banner Chemical Prods., 60 Elm St., Newark
Baum's Castorine Co., 200 Mathew St., Rome, N. Y.
Borne Scrymser Co., 632 S. Front St., Elizabeth, N. J.
Boston Chemical Industries, 64 E. Brookline St., Boston
Bri-Test Prods. Corp., 845 E. 138th St., New York
Buckingham Wax Co., Van Dam St. & Borden Ave., L. I. City, N. Y.
Carlstadt Chem. Co., Carlstadt, N. J.
Chemical Mfg. & Dist. Co., Easton, Pa.
Chemical Compounding Corp., 262 Huron St., Bklyn, N. Y.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chemical Co., 62 William St., N. Y.
Columbia Soap & Chem. Co., Inc., 324 Leavenworth St., San Francisco
James Counts Soap Co., 2nd and Washington Aves., St. Louis
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
Davies-Young Soap Co., Dayton, O.
E. F. Drew & Co., 15 E. 26th St., N. Y.
Eagle Soap Corp., Huntington, Ind.
J. Eavenson & Sons, Camden, N. J.

SHAMPOO BASE AND LIQUID (Soap Base) (Contd.)

Emulsol Corp., 59 E. Madison St., Chicago
Essential Chemicals, 744 N. 4th St., Milwaukee
Fairfield Labs., Inc., 417 Cleveland Ave., Plainfield, N. J.
Fine Organics, Inc., 211 E. 19th St., N. Y. 3
Fuld Bros. 702 S. Wolfe St., Baltimore
Gaylord Chem. Co., 701 Woodswether Rd., Kansas City
James Good, Inc., 2116 Susquehanna Ave., Phila.
Haag Laboratories, Inc., 140th & Seeley Ave., Blue Island, Ill.
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
Harley Soap Co., Pierce & Orthodox Sts., Phila.
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Imperial Prods. Co., 1600 Fontain St., Phila. 21
Jansen Soap & Chemical Co., 324 Leavenworth St., San Francisco, Cal.
Kearny Mfg. Co., Kearny, N. J.
Kranich Soap Co., 60 Richards St., Brooklyn
Lewis Soap & Chem. Co., Oakland, Calif.
Los Angeles Soap Co., 617 E. First St., Los Angeles
Manhattan Kreole Prods., 172 N. 10th St., Brooklyn
M. Michel & Co., 90 Broad St., N. Y.
Midland Labs., Dubuque, Ia.
Miranol Chem. Co., 16 Melville Pl., Irvington, N. J.
Napthole, Inc., 15 E. 26th St., N. Y.
Nopco Chem. Co., Harrison, N. J.
N. Y. Soap Co., 258 Third St., Brooklyn
Oil-Kraft, Inc., 3330 Beekman St., Cincinnati
Onyx Oil Chem. Co., Warren & Morris Sts., Jersey City 2
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Co., Cincinnati
Quaker Chem. Prods. Co., Conshohocken, Pa.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Robinson Wagner Co., 110 E. 42nd St., N. Y.
Rochester Germicide Co., 333 Hollenbeck St., Rochester 5, N. Y.
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Schaeffer Mfg. Co., 102 Barton St., St. Louis
Schmidt Soap Products Co., 236 W. North Ave., Chicago
E. B. Snyder Labs., 213 E. Harold St., Phila. 25
John T. Stanley Co., 624 W. 30th St., N. Y.
Superior Soap Corp., 121 Nostrand Ave., Bklyn, N. Y.
Swift & Co., Chicago
Tech Soap Mfg. Co., 125 W. 46th Pl., Chicago
Tesco Chem. Co., P. O. Box 4748, Atlanta
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Thompson-Hayward Chem. Co., Kansas City, Mo.
Trio Chem. Wks., 341 Scholes St., Bklyn.
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Specialties Corp., 1003 S. California Blvd., Chicago 12
Universal Chem. Corp., 35 E. Market St., Akron, O.
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
Warwick Wax Co., 10-10 44th Ave., L. I. C. 1, N. Y.
G. H. Wood & Co., Toronto, Canada.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago
Chas. W. Young & Co., 1247 N. 26th St., Phila.

SHAMPOOS, POWDER AND CAKE

Armour & Co., 1335 W. 31st St., Chicago
Arrow Laboratories, 236 W. North Ave., Chicago
Chicago Sanitary Prods., Co., 3100 S. Throop St., Chicago
Davies-Young Soap Co., Dayton, O.
Emulsol Corp., 59 E. Madison St., Chicago
Kranich Soap Co., 60 Richards St., Brooklyn
Lanair Chem. Corp., 236 W. North Ave., Chicago
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N. J.
North Coast Chem. & Soap Wks., Seattle, Wash.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Piatt & Smillie Chemicals, 2329 Pine St., St. Louis 3
John Powell & Co., 1 Park Ave., N. Y.
Procter & Gamble Co., Cincinnati
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Schmidt Soap Products Co., 236 W. North Ave., Chicago
Superior Soap Corp., 121 Nostrand Ave., Bklyn, N. Y.
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

SHAMPOOS, SOAPLESS

Alrose Chem. Co., Box 1294, Providence, R. I.
Antara Prods., 444 Madison Ave., N. Y.
Boston Chemical Industries, 64 E. Brookline St., Boston
Buckingham Wax Co., 51 Van Dam St., L. I. C. 1, N. Y.
Carlstadt Chem. Co., Carlstadt, N. J.
Chem. Service Co. of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Davies-Young Soap Co., Dayton, O.
Emulsol Corp., 59 E. Madison St., Chicago
Fairfield Labs., Inc., 417 Cleveland Ave., Plainfield, N. J.
Fuld Bros., 702 S. Wolfe St., Baltimore
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Imperial Prods. Co., 1600 Halpern St., Phila. 21
Kearny Mfg. Co., Kearny, N. J.
Lewis Soap & Chem. Co., Oakland, Calif.
Los Angeles Soap Co., 617 E. First St., Los Angeles
M. Michel & Co., 90 Broad St., N. Y.
Miranol Chemical Co., 16 Melville Pl., Irvington, N. J.
Monsanto Chem. Co., 1700 S. 2nd St., St. Louis
Nopco Chem. Co., Harrison, N. J.
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City 2
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Co., Cincinnati
Protean Chemical Corp., 156 Nassau St., N. Y. 7
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Sherwood Refining Co., Englewood, N. J.
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
E. B. Snyder Labs., 2137 E. Harold St., Philadelphia
L. Sonneborn Sons, Inc., 88 Lexington Ave., N. Y.
Stepan Chem. Co., 1353 N. Branch St., Chicago 22
U. S. Sanitary Spec. Corp., 1003 S. California Blvd., Chicago 12
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Verona Chem. Co., 26 Verona Ave., Newark, N. J.

SHAVING CREAM (Soap and Brushless)

Cenol Co., 4250 N. Pulaski Ave., Chicago
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Eagle Soap Corp., Huntington, Ind.
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N. J.
Procter & Gamble Co., Cincinnati
Schmidt Soap Products Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

SHAVING CREAM BASE

Antara Prods., 444 Madison Ave., N. Y. 22
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Miranol Chemical Co., Irvington, N. J.
Robinson Wagner Co., 110 E. 42nd St., N. Y.
Schmidt Soap Products Co., 236 W. North Ave., Chicago
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

SHAVING SOAP (Cake, Stick, Powder)

Arrow Laboratories, 236 W. North Ave., Chicago
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Colgate-Palmolive-Peet Co., Jersey City, N. J.
J. Eavenson & Sons, Del. and Penn Sts., Camden, N. J.
Hewitt Soap Co., Dayton, O.
Lanair Chem. Corp., 236 W. North Ave., Chicago
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N. J.
Los Angeles Soap Co., Los Angeles
Procter & Gamble Co., Cincinnati
Schmidt Soap Products Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

SHEET SOAP (see Soap Paper)

SHIPPING CASES (see Boxes)

SHEEP DIPS (see Cattle Dips)

SHELLAC

Barrett Varnish Co., 1532 S. 50, Cicero, Ill.
Bradshaw Praeger & Co., 3248 W. 47th Place, Chicago

#425 Equipped with the unique, efficient Moore valve that is found all over the country in gravity feed line systems. No clogging; no leaking; no staining or corroding. Will stand up for many years under the most severe usage. Chrome-plated body. Lock-top cap. Attractive opalescent globe.

#425, pictured below, is available with a copper, chrome-plate globe.

#450 Just like the #425 with the exception of the valve. A whipping section turns liquid soap into lather. Uses less soap than a liquid soap dispenser.



No. 425—with copper, chrome-plated globe.



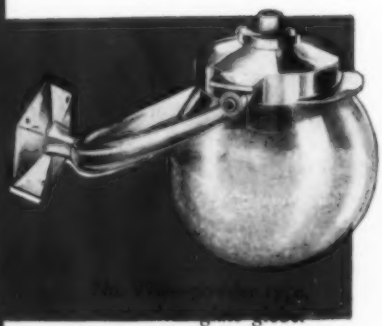
No. 425—liquid type, with opalescent globe.

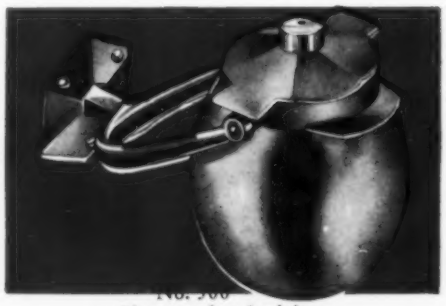


No. 450—lather type, with opalescent globe.

TILT-TYP A dispenser that will give a lifetime of trouble-free service. The outstanding feature is the simplicity of its mechanism. The whole dispenser is made up of just a few parts—nothing to get out of order, nothing to wear out. Rugged . . . lasting . . . simple operation . . . can't fail.

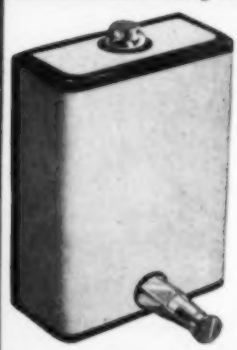
Furnished with either glass or copper, chrome-plated globe.





Chrome-plated globe.





TANC-TYP Attractive all metal, Tanc-Typ Dispensers. Efficient and long wearing, these rugged dispensers, holding 40 ounces of liquid soap, are ideal for use in large busy washrooms and shower rooms. For many installations the Tanc-Typ is just as effective as a gravity soap system, and because expensive plumbing materials and labor are unnecessary, the cost is much less. No. 500 for liquid; No. 550 for lather.



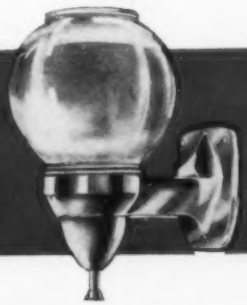
Moore

A Name to Remember

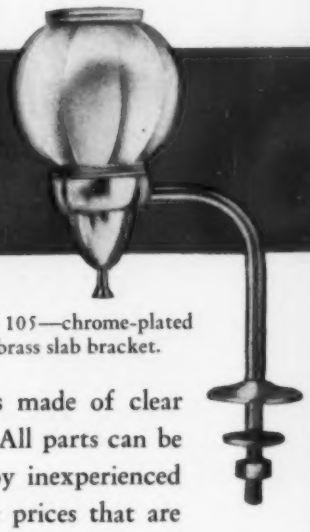
The name Moore on Liquid Soap Dispensers and Gravity Soap Systems means Dependability of Operation. For over a half century, Moore Bros. Co. has successfully incorporated new ideas, new materials and new designs in a constant effort to make the finest obtainable soap dispensing equipment. Top engineering ability and years of research and constant experimentation have gone into each and every Moore Product. When trouble-free soap dispensing equipment is required, people just naturally think of MOORE.



No. 50—plastic bracket.



No. 100—chrome-plated metal bracket.



No. 105—chrome-plated brass slab bracket.

The improved PEER dispensers combine smooth operation with smart appearance. All working parts are made of brass; uses a vacuum controlled spring action valve which releases a controlled amount of soap without leaking or clogging. The heavy globe, holding 12 ounces of liquid soap, is made of clear "Duraglas". Easily installed. All parts can be replaced in a few minutes by inexperienced hands. Peer dispensers sell at prices that are less than any others on the market of comparable quality.



No. 200—with clear glass globe.

ATLAS #200 The top-fill Atlas is a dispenser that, though moderately priced, makes an attractive addition to the finest washroom. It has excellent proportions, sleek, chrome-plated bracket, modern design. The clear globe is topped with a contrasting *black bakelite cap*. Uses a dependable mechanism with all working parts of brass. The globe holds 12 ounces of liquid soap. Available with glass or copper, chrome-plated globe.



No. 200—with copper, chrome-plated globe.



No. 400—with heavy glass globe.

#400 A Push-in soap dispenser designed for use in any size or type of washroom. It can be mounted on any wall. It has special Moore Patented features which prevent leaking. Will not stick or corrode. Heavy glass reservoir with plastic screw cap. The body will not corrode or stain. Easily the best looking and greatest value of any dispenser offered in "The Trade."

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George H. Lincks, 155 John St., N. Y.
Mac-Lac Co., Inc., 127 Maiden Lane, N. Y.
Mantrose Corp., 136 41st St., Brooklyn, N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
Schwab Bros. Corp., 102 Maiden Lane, N. Y.
Twin City Shellac Co., 338 Flushing Ave., Brooklyn
Wm. Zinsser & Co., 516 W. 59th St., N. Y.

SHOE POLISH DAUBERS

Alba Cook Co., Jersey City, N. J.
American Cork Specialty Co., 115 Sutton St., Bklyn., N. Y.
Applicator Brush Co., 87 Frankfort St., N. Y.
Applicator Co., 1512 Atlantic Ave., Bklyn., N. Y.
Armstrong Cork Co., Lancaster, Pa.

SIFTER TOP CANS (see Cans, Sifter Top)

SIFTING EQUIPMENT (see Screens)

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California Industrial Minerals Co., Friant, Calif.
Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Dicalite Co., 756 S. Broadway, Los Angeles, Cal.
E. I. du Pont de Nemours Co., Wilmington, Del.
K. F. Griffiths & Co., 110 E. 42nd St., N. Y.
Harshaw Chem. Co., Cleveland
Heckathorn & Co., Richmond, Calif.
Illinois Silica Co., Cairo, Ill.
Innis, Speiden & Co., 117 Liberty St., N. Y.
International Silica Co., Cairo, Ill.
Johns-Manville Corp., 22 E. 40th St., N. Y.
Pennsylvania Pulverizing Co., Lewiston, Pa.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. C.
L. A. Salomon & Bro., 216 Pearl St., N. Y.
Silica Prods. Co., 700 Baltimore Ave., Kansas City, Mo.
Tamms Silica Co., 228 N. La Salle St., Chicago
Chas. A. Wagner Co., 813 Callowhill St., Phila.
Whittaker, Clark & Daniels, 260 W. Bway., N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.

SILICATE OF SODA (see Sodium Silicate)

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SLABBERS (see Soap Machinery)

SOAP BARK and EXTRACT (see Saponin)

SOAP BOOKS (see Soap Paper)

SOAP, CASTILE (see Castile Soap)

SOAP, CHIP (see Chip Soap)

SOAP COLORS (See Colors)

SOAP CUTTERS (see Soap Machinery)

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American Dispenser Co., 115 E. 23rd St., N. Y. 10

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Clifton Chemical Co., 62 William St., N. Y.
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Garnet Chem. Corp., 911 N. Lumber St., Allentown, Pa.
General Mfg. & Engineering Co., 2700 N. Karlov Ave., Chicago 39
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Hysan Prods. Co., 932 W. 38th Place, Chicago
Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago
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Bobrick Mfg. Corp., 234 Hawthorne St., Brooklyn 25
Clifton Chemical Co., 62 William St., N. Y.
Federal Tool Corp., 412 N. Leavitt St., Chicago
Fuld Bros., 702 S. Wolfe St., Baltimore
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L. E. Hicks & Son, 105 S. Grove Ave., Oak Park, Ill.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago
Moore Bros. Co., 100 Warren St., N. Y.
Packwood Mfg. Co., St. Louis
Palmer Fixture Co., Waukesha, Wisc.
Presto Mfg. Co., 770 Cromwell Ave., St. Paul, Minn.
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
E. B. Snyder Labs., 2137 E. Harold St., Philadelphia
Sugar Beets Prods. Co., Saginaw, Mich.
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Specialties Corp., 1003 S. California Blvd., Chicago 12
G. H. Wood & Co., Toronto, Ont., Canada
Vasco Products Co., Elmira, N. Y.

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Bobrick Mfg. Corp., 234 Hawthorne St., Brooklyn 25
Clifton Chemical Co., 62 William St., N. Y.
Eagle Soap Corp., Huntington, Ind.
R. M. Hollingshead Corp., Camden, N. J.
Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago
Hysan Prods. Co., 932 W. 38th Place, Chicago
Moore Bros. Co., 100 Warren St., N. Y.
Palmer Fixture Co., Waukesha, Wis.
Uncle Sam Chemical Co., 575 W. 131st St., N. Y. 27
U. S. Sanitary Specialties Corp., 1003 S. California Blvd., Chicago 12
West Disinfecting Co., Long Island City, N. Y.
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SOAP DRYERS (see Dryers)

SOAP, FLAKE (see Chip Soap)

SOAP FRAMES (see Frames)

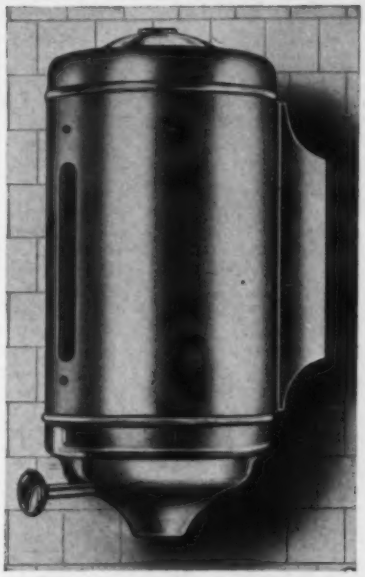
SOAP KETTLES (see Kettles)

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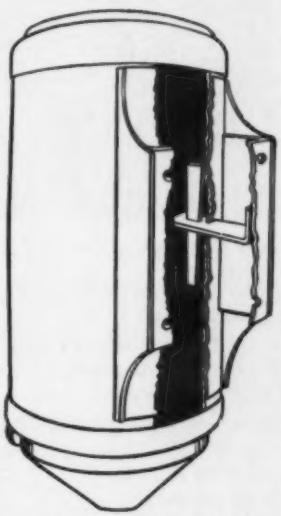
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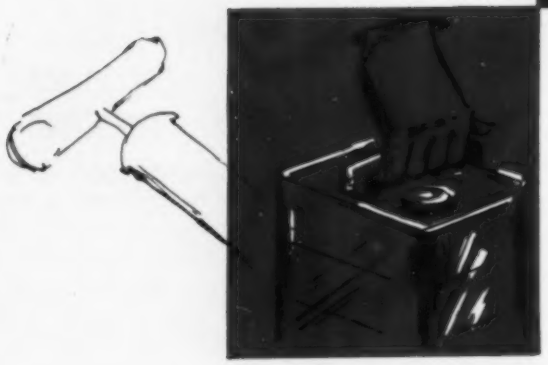
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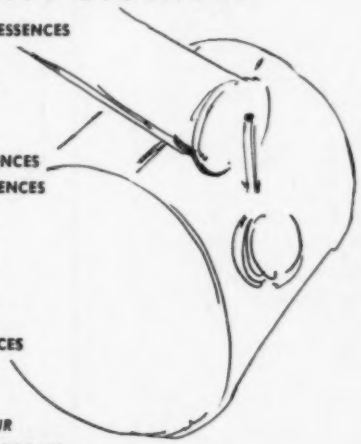
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Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago
H. K. Porter Co,. 49th and Harrison Sts., Pittsburgh
Read Machy. Div., York, Pa.
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Benj. French, Inc., 160 5th Ave., N. Y.
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Gunning & Gunning, 601 W. 26th St., N. Y.
D. W. Hutchinson & Co., 162 Front St., N. Y.
Lautier Fils, 321 Fifth Ave., N. Y.
Geo. Lueders & Co., 427 Washington St., N. Y.
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y.
Naugatuck Aromatics, 254 Fourth Ave., N. Y.
Neumann-Buslee & Wolfe, 224 W. Huron St., Chicago
New York Aromatics Co., 5 Beekman St., N. Y.
Norda Essential Oil & Chem. Co., 601 W. 16th St., N. Y.
Noville Essential Oil Co., 157 Cedar St., N. Y.
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Polak's Frutal Works, 36-14 35th St., L. I. City, N. Y.
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Schimmel & Co., 601 W. 26th St., N. Y.
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Seeley & Co., 136 Liberty St., N. Y.
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Synfleur Scientific Labs., Monticello, N. Y.
Syntomatic Corp., 114 E. 32nd St., N. Y.
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TABLE OF COMPARISON

COMPONENT	SHARPLES PROCESS	KETTLE PROCESS
Neat Soap		
T. F. A.	62.8%	62.9%
Free Na_2O	0.06–0.10%	0.06–0.10%
NaCl	0.40–0.50%	0.40–0.50%
Glycerine	0.36%	0.50–0.80%
Lye Ratio		
(lb. lye per lb. 63% T. F. A. Soap)	0.36	1.00
Spent Lye		
Glycerine	15–19%	4–6%
NaCl	10%	18%
Steam Consumption		
(lb. steam per lb. fat processed)	.17	1.13

Here's neat soap *Magic*



This does not mean magic of the Aladdin-lamp variety, but the realistic magic of hard facts as exemplified in the table of comparison shown above. Under the Sharples process, note the low lye-ratio as well as the high glycerine and low salt content of the spent lye. Furthermore, steam consumption is reduced to only 15–20% of the kettle process requirement.

Sharples neat soap is lighter in color and brighter than that produced in kettles from similar stocks—the direct result of less process contamination and the excellent separating ability of Sharples Super-Centrifuges. It is possible, with the Sharples process, to produce, without bleach, a neat soap which is as good or better in color than the bleached kettle product.

The Sharples method is clean-cut. It produces only two end products—neat soap and spent lye. With nigre re-cycled to the system, at least six to eight percent more neat soap of a higher quality is produced by the Sharples process. Degradation of quality stock through nigre to a lower grade is entirely eliminated.

It is possible, in many cases, to expand total soap production by installing a Sharples process—and with no increase needed in capacity of steam plant, lye treating house or glycerine house.

We suggest you write for Bulletin 1241—a detailed study of the process. Thereafter, Sharples technical men stand ready to help from initial survey to on-stream production.

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E. I. du Pont de Nemours & Co., Wilmington, Dela. (Methylation Process)
Emery Industries, Carew Tower, Cincinnati, O. (High Pressure Saponification Process)
Refining Unincorporated, 70 W. 40th St., N. Y. 18
Sharples Corp., 23rd & Westmoreland Sts., Phila. 40 (Process Employing Centrifugals for the Production of Neat Soap)

SOAP PLANTS (Engineering)

Alan Porter Lee, 150 Broadway, N. Y.
J. W. McCutcheon, 475 Fifth Ave., N. Y.
Wurster & Sanger, 5201 S. Kenwood Ave., Chicago

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Abbe Engineering Co., 50 Church St., N. Y.
Chemical & Process Machy. Corp., 146 Grand St., N. Y. 13 (Used)
Consolidated Products Co., 15 Park Row, N. Y. (Used)
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 359 46th St., Brooklyn, N. Y.
J. M. Lehmann Co., Lyndhurst, N. J.
Newman Tallow & Soap Mach. Co., 1051 W. 35th, Chicago (Used)
Prater Pulverizing Co., 1825 55th Ave., Chicago
Henry Simon, Ltd., Cheadle Heath, Stockport, Eng.
Stein Equipment Co., 90 West St., N. Y. (Used)
Vickers-Armstrong, Ltd., Broadway, London, England

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Armour Soap Wks., 1355 W. 31st St., Chicago
Chem. Mfg. & Dist., Co., Easton, Pa.
Colgate-Palmolive-Peet Co., Jersey City, N. J.
Conti Products Corp., 155 Varick St., N. Y.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Eagle Soap Corp., Huntington, Ind.
J. Eavenson & Sons, Camden, N. J.
Enjay Co., 15 W. 51st St., N. Y.
L. E. Hicks & Son, 507 S. Grove Ave., Oak Park, Ill.
Imperial Prods. Co., 1600 Fontain St., Phila.
Insto Co., 110 Center St., Los Angeles
Kranich Soap Co., 60 Richards St., Brooklyn, N. Y.
Lanair Chem. Corp., 236 W. North Ave., Chicago
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N. J.
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Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
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Schmidt Soap Products Co., 236 W. North Ave., Chicago
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Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
G. H. Wood & Co., Toronto, Ont., Canada
Allen B. Wrisley Co., 6801 W. 56th St., Chicago

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(Do not confuse with pure powdered soaps)

Aid Soap Mfg. Co., 1962 Enoch St., Pittsburgh, Pa.
American Soap Powder Wks., Inc., 98 Van Dyk St., Brooklyn
American Soap & Washoline Co., Cohoes, N. Y .
Armour Soap Wks., 1355 W. 31st St., Chicago
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Beach Soap Co., Lawrence, Mass.
Chicago Sanitary Prods., Co., 3100 S. Throop Ave., Chicago 8
Cowles Chemical Co., 7016 Euclid Ave., Cleveland
Chemical Mfg. & Dist. Co., Easton, Pa.
Cudahy Packing Co., 221 N. La Salle St., Chicago
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
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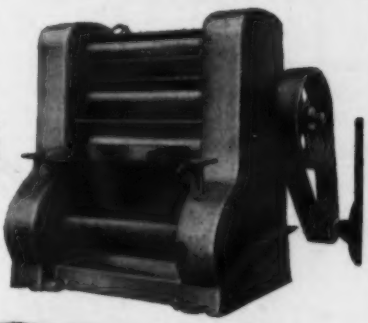
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Typical of our line which includes the new 813SA three roll vertical type mill. Diamond flaking attachments available.





LEHMANN SOAP PLODDER

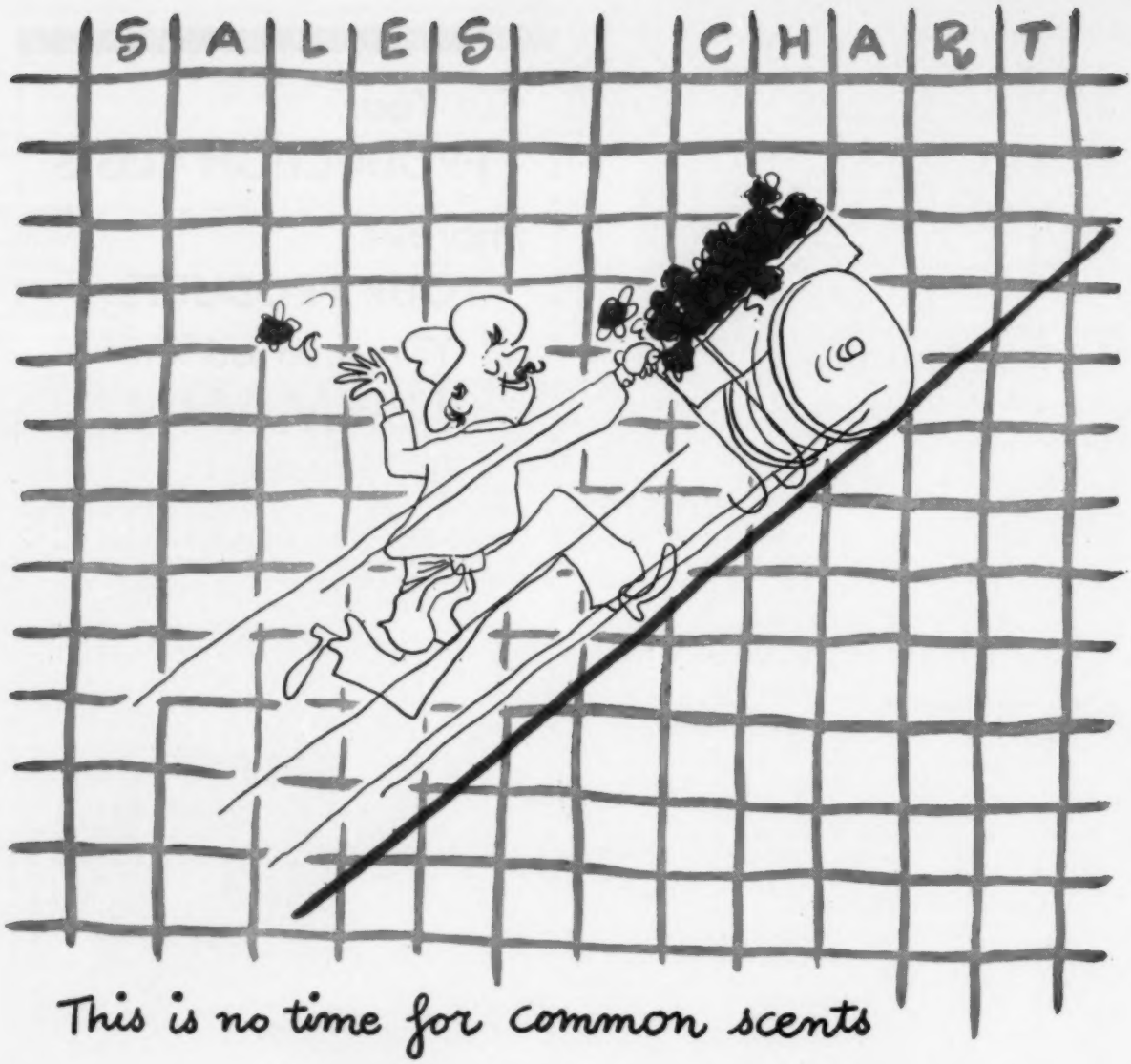
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Kamen Soap Prods. Co., Woolworth Bldg., N. Y.
Klix Chem. Co., 2460 Third St., San Francisco
H. Kohnstamm & Co., 91 Park Pl., N. Y.
Los Angeles Soap Co., 617 E. First St., Los Angeles
MacKenzie Labs., Front & Yarnall Sts., Chester, Pa.
Geo. E. Marsh Co., 200 Broadway, Cambridge, Mass.
Miranol Chem. Co., 16 Melville Pl., Irvington, N. J.
Murro Chemical Co., Asheville, N. C.
Napthole, Inc., 15 E. 26th St., N. Y.
National Milling & Chem. Co., Manayunk, Phila.
Nopco Chemical Co., Harrison, N. J.
North Coast Soap & Chem. Wks., Seattle, Wash.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Phipps Products Co., 30 Huntington Ave., Boston
Port Huron Detergent Co., Port Huorn, Mich.
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Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
S. & S. Soap Co., 324 Barretto St., Bronx, N. Y.
Seaboard Distributors, 60 Park Pl., Newark, N. J.
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
Stevens Soap Corp., 200 Sullivan St., Brooklyn
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Union Stock Yards, Chicago
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
U. S. Sanitary Specialties Corp., 1001 S. California Blvd., Chicago 12
Vasco Prods. Co., Elmira, N. Y.
Vliet Soap Co., 638 Monroe St., Brooklyn
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
M. Werk Co., St. Bernard, Cincinnati
Western Chem. & Mfg. Co., 4032 S. Wentworth Ave., Chicago
G. H. Wood & Co., Toronto, Ont., Canada
Chas. W. Young & Co., Phila.

SOAP PRESSES (see Presses)

SOAP SHEETS (see Soap Paper)

SOAP SOLUTIONIZING DEVICE (Solutionizing and dispensing drums for soft soaps)

Clifton Chemical Co., 62 William St., N. Y.
Davies-Young Soap Co., Dayton, O.
Independent Specialties, 152 W. 75th St., Chicago
U. S. Sanitary Specialties Corp., 1001 S. California Blvd., Chicago 12

SOAP SLABBERS (see Soap Machinery)

SOAP STOCK (Boiled down cotton oil soap stock, etc.)

(see also Brokers and Dealers)

Armour & Co., 1355 W. 31st St., Chicago
Brode Corp., Memphis, Tenn.
T. G. Cooper & Co., Cedar and Venango Sts., Phila.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Durkee Famous Foods, Inc., 2670 Elston Ave., Chicago
Wm. H. Floyd & Co., Los Angeles
H. Hentz & Co., 60 Beaver St., N. Y.
Portsmouth Cotton Oil Refining Co., Portsmouth, Va.
Procter & Gamble Co., Cincinnati O.
Southern Cotton Oil Co., 21 West St., N. Y.
A. E. Staley Mfg. Co., Decatur, Ill.
Welch, Holme & Clark Co., 439 West St., N. Y.

SOAP VALVES (see Soap Dispensing Systems)

SOAP, WHALE OIL (see Whale Oil Soap)

SOAP WRAPPING MACHY. (see Wrapping Mach.)

SOAPLESS DETERGENTS (see Detergents, Synthetic)

SOAPLESS SHAMPOOS (see Shampoos, Soapless)

SOAPS, AUTO (see Potash Soaps)

SOAPS, FLOATING (see Floating Soaps)

SOAPS, GRANULATED (see Laundry Soaps, Granulated)

SOAPS, LIQUID (see Potash Soaps)

SOAPS, MEDICINAL, CAKE (see Medicinal Soaps, Cake)

SOAPS, MOTTLED (see Mottled Soaps)

SOAPS, PINE SCRUB (see Pine Scrub Soaps)

SOAPS, SCOURING (see Scouring Soaps)

SOAPS, SCRUBBING (see Floor Scrub Soaps

SOAPS, SURGICAL (see Potash Soaps)

SOAPS, TEXTILE (see Textile Soaps)

SODA ASH

(see also Dealers)

American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N. Y.
Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mathieson Chemical Corp., 60 E. 42nd St., N. Y.
Niagara Alkali Co., 60 E. 42nd St., N. Y.
Penn Salt Mfg. Co., Widener Bldg., Phila.
Philipp Bros., 70 Pine St., N. Y.
Pittsburgh Plate Glass Co., Columbia Chemical Div., 5th & Bellefield, Pittsburgh 13
Solvay Sales Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Virginia-Carolina Chem. Corp., Richmond, Va.
Welch, Holme & Clark Co., 439 West St., N. Y.
Westvaco Chem. Div., Food Machy. & Chem. Corp., 405 Lexington Ave., N. Y.
Wyandotte Chem. Corp., Wyandotte, Mich.

SODA (Modified)

(see also Dealers)

American Cyanamid & Chemicals Corp., 30 Rockefeller Plaza, N. Y.
Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14
E. I. du Pont de Nemours & Co., Wilmington, Del.
Mathieson Chemical Corp., 60 E. 42nd St., N. Y.
Pittsburgh Plate Glass Co., Columbia Chem. Div., 5th & Bellefield, Pittsburgh 13
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Solvay Sales Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Stauffer Chem. Co., 420 Lexington Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Virginia-Carolina Chem. Corp., Richmond, Va.
Welch, Holme & Clark Co., 439 West St., N. Y.
Wyandotte Chem. Corp., Wyandotte, Mich.

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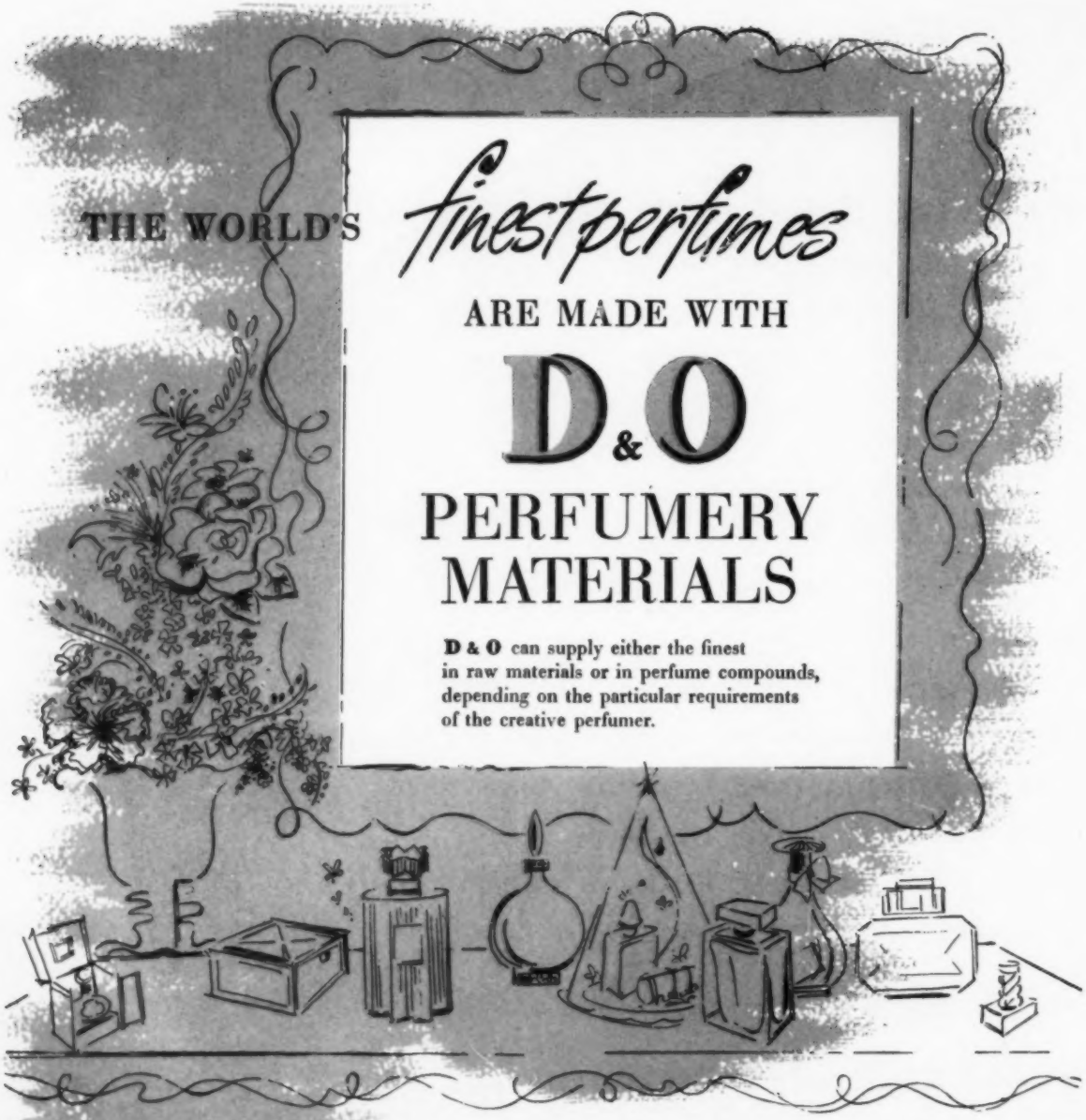
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Kelco Co., 31 Nassau St., N. Y.

SODIUM ARSENITE

Chipman Chem. Co., Bound Brook, N. J.
Geigy Co., 89 Barclay St., New York
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Merck & Co., Rahway, N. J.
Penn Salt Mfg. Co., Widener Bldg.. Phila.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
Shepherd Chem. Co., Cincinnati 12, O.
Stauffer Chem. Co., 420 Lexington Ave., N. Y.

SODIUM BENZOATE

J. T. Baker Chem. Co., Phillipsburg, N. J.
Dow Chem. Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, N. J.
Heyden Chem. Corp., 393 7th Ave., N. Y.
Hooker Electrochem. Co., Niagara Falls, N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y. 6
Merck & Co., Rahway, N. J.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Seydel Chem. Co., 225 Mercer St., Jersey City, N. J.

SODIUM BICARBONATE

(see also Dealers)

American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N. Y.
Church & Dwight Co., 70 Pine St., N. Y.
Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14
E. I. du Pont de Nemours & Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mathieson Chemical Corp., 60 E. 42nd St., N. Y.
Monsanto Chem. Co., 1800 S. 2nd St., St. Louis
Pennsylvania Salt Mfg. Co., Widener Bldg., Philadelphia
Pittsburgh Plate Glass Co., Columbia Chemical Div., 5th & Bellefield, Pittsburgh 13
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Solvay Sales Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y.
Wyandotte Chem. Corp., Wyandotte, Mich.

SODIUM BICHROMATE

(see also Dealers)

American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N. Y.
Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Mallinckrodt Chem. Co., 2nd & Mallinckrodt Sts., St. Louis 7
Merck & Co., Rahway, N. J.
Mutual Chemical Co., 270 Madison Ave., N. Y.
Natural Products Refining Co., 900 Garfield Ave., Jersey City, N. J.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Jos. Turner & Co., Ridgefield, N. J.

SODIUM BISULFATE (see Nitre Cake)

SODIUM CARBONATE (see Soda Ash)

SODIUM CHLORATE

J. T. Baker Chem. Co., Phillipsburg, N. J.
Chipman Chem. Co., Bound Brook, N. J.
E. I. du Pont de Nemours & Co., Wilmington
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Mallinckrodt Chem. Co., 2nd & Mallinckrodt Sts., St. Louis 7
Merck & Co., Rahway, N. J.
Oldbury Electrochem. Co., 22 E. 40th St., N. Y.
Penn Salt Mfg. Co., Widener Bldg., Phila.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
Western Electrochem. Co., Los Angeles 23, Calif.

SODIUM CHLORIDE (see Salt, Common Salt)

SODIUM CYANIDE

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Mallinckrodt Chemical Wks., 2nd & Mallinckrodt Sts., St. Louis 7
Merck & Co., Rahway, N. J.
Rosenthal Bercow, 25 E. 26th St., N. Y.
Jos. Turner & Co., Ridgefield, N. J.

SODIUM FLUORIDE (see Fluorides)

SODIUM FLUOSILICATE (see Sodium Silicofluoride)

SODIUM HYDROSULFITE

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
J. T. Baker Chem. Co., Phillipsburg, N. J.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
General Dyestuff Corp., 435 Hudson St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mallinckrodt Chem. Wks., 2nd & Mallinckrodt Sts., St. Louis 7
Merck & Co., Rahway, N. J.
Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Royce Chemical Co., Carlton Hill, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y. 14

SODIUM HYPOCHLORITE (see Laundry Bleach)

SODIUM HYPOSULFITE (Thiosulfate)

E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Innis, Speiden & Co., 117 Liberty St., N. Y.
A. R. Maas Chem. Co., South Gate, Calif.
Mallinckrodt Chem. Wks., St. Louis
Merck & Co., Rahway, N. J.
Rohm & Haas, 222 W. Washington Sq., Phila.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Virginia Smelting Co., W. Norfolk, Va.
Welch, Holme & Clark Co., 439 West St., N. Y. 14

SODIUM LAURYL SULFATE (see Sulfonated Fatty Alcohols)

SODIUM METASILICATE

Cowles Chemical Co., 7016 Euclid Ave., Cleveland
Diamond Alkali Co., 300 Union Commerce Blvd., Cleveland 14
E. I. du Pont de Nemours & Co., Wilmington, Del.
Emeryville Chem. Co., 405 Montgomery St., San Francisco
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Innis, Speiden & Co., 117 Liberty St., N. Y. 6
MacKenzie Laboratories, Front & Yarnall Sts., Chester, Pa.
Philadelphia Quartz Co., Public Ledger Bldg., Phila. 6
Virginia-Carolina Chem. Corp., Richmond 5, Va.
Welch, Holme & Clark Co., 439 West St., New York



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Blockson Chem. Co., Joliet, Ill.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Griffin Chemical Co., 1000 16th St., San Francisco
MacKenzie Labs., Front & Yarnell Sts., Chester, Pa.
Mechling Bros. Chemical Co., Camden, N. J.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis
Welch, Holme & Clark Co., 439 West St., N. Y.

SODIUM ORTHOSILICATE

Cowles Chemical Co., 7016 Euclid Ave., Cleveland
Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14
Dow Chemical Co., Midland, Mich.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Pennsylvania Salt Mfg. Co., 1000 Widener Bldg., Phila.

SODIUM PERBORATE

(see also Dealers)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Croton Chem. Corp., 114 Liberty St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mallinckrodt Chem. Wks., 2nd & Mallinckrodt Sts., St. Louis 7
Welch, Holme & Clark Co., 439 West St., N. Y. 14

SODIUM PYROPHOSPHATE (see Tetrasodium Pyrophosphate)

SODIUM SESQUICARBONATE

Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14
Mathieson Chemical Corp., 60 E. 42nd St., N. Y.
Mechling Bros., Chemical Co., Camden, N. J.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
Solvay Sales Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Virginia-Carolina Chemical Corp., Richmond, Va.
Welch, Holme & Clark Co., 439 West St., N. Y.

SODIUM SESQUISILICATE

Cowles Chemical Co., 7016 Euclid Ave., Cleveland
Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14
Innis, Speiden & Co., 117 Liberty St., N. Y.
MacKenzie Laboratories, Front & Yarnall Sts., Chester, Pa.
Philadelphia Quartz Co., Public Ledger Bldg., Phila. 6
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
Solvay Sales Division, Allied Chemical & Dye Corp., 40 Rector St., N. Y. 6
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y.
Wyandotte Chemicals Corp., Wyandotte, Mich.

SODIUM SILICATE

(see also Dealers)

American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N. Y.
Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14
E. I. du Pont de Nemours & Co., Wilmington, Del.
Emeryville Chem. Co., 405 Montgomery St., San Francisco
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mechling Bros. Chem. Co., Camden, N. J.
Philadelphia Quartz Co., Public Ledger Bldg., Phila. 6
Chas. L. Read & Co., 120 Greenwich St., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
Virginia-Carolina Chem. Corp., Richmond 5, Va.
Welch, Holme & Clark Co., 439 West St., N. Y.

SODIUM SILICOFLUORIDE

American British Chem. Supplies, Inc., 180 Madison Ave., N. Y.
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
American Fluoride Corp., 151 W. 19th St., N. Y.
Armour Fertilizer Wks., Atlanta, Ga.
Blockson Chemical Co., Joliet, Ill.
Concord Chem. Co., Independence Sq., Phila.
Croton Chem. Corp., 114 Liberty St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Charles Hardy, Inc., 415 Lexington Ave., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Innis, Speiden & Co., 117 Liberty St., N. Y.
W. B. Lawson, Inc., Union Commerce Bldg., Cleveland
Merck & Co., Rahway, N. J.
Penn. Salt Mfg. Co,. Widener Bldg., Phila.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Henry Sundheimer, Inc., 103 Park Ave., N. Y.
Tennessee Corp., Atlanta, Ga.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y. 19

SOFT SOAPS (See Potash Soaps)

SOLUBLE OILS (See Sulfonated Oils)

SOLVENT NAPHTHA

Anderson-Prichard Oil Corp., Oklahoma City, Okla.
Atlantic Refining Co., 260 S. Broad St., Phila.
Barrett Div., Allied Chem. & Dye Corp., 40 Rector St. N. Y.
S. H. Bell Co., 1407 Gulf Bldg., Pittsburgh
Central Solvents & Chemicals Co., 2545 W. Congress St., Chicago 12
Commerce Petroleum Co., 2923 Lock St., Chicago
Gulf Oil Corp., Pittsburgh 30
Koppers Co., Koppers Bldg., Pittsburgh
Neville Co., Pittsburgh
Pennsylvania Refining Co., Butler, Pa.
Reilly Tar & Chemical Corp., Indianapolis
Shell Oil Co., 50 W. 50th St., N. Y.
Shell Petroleum Corp., Shell Bldg., St. Louis
Skelly Oil Co., 605 W. 47th St., Kansas City, Mo.
Sinclair Refining Co., East Chicago, Ind.
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago

SOLVENTS, OXYGENATED

Carbide & Carbon Chem. Corp., 30 E. 42nd St., N. Y.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
Enjay Co., 15 W. 51st St., N. Y. 19
U. S. Industrial Chem. Co., 60 E. 42nd St., N. Y.

SOLVENTS (Chlorinated, also alcohols, coal tar derivatives, etc.)

Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Carbide & Carbon Chem. Corp., 30 E. 42nd St., N. Y.
Central Solvents & Chemicals Co., 2545 W. Congress St., Chicago 12
Commercial Solvents Corp., 17 E. 42nd St., N. Y.
Crosby Chemicals, Inc., De Ridder, La.
Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Enjay Co., 15 W. 51st St., N. Y.
Hercules Powder Co., Wilmington
Hooker Electrochemical Co., Niagara Falls, N. Y.
Kessler Chem. Corp., Philadelphia
Koppers Co., Koppers Bldg., Pittsburgh
Michigan Chemical Corp., St. Louis, Mich.
Monsanto Chemical Co., 1700 2nd St., St. Louis
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SOLVENTS (Chlorinated, also alcohols, coal tar derivatives, etc.) (Contd.)

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Sharples Solvents Corp., 100 Bush St., Phila.
Shell Chemicals Corp., San Francisco
Skelly Oil Co., Kansas City
U. S. Industrial Chem. Co., 60 E. 42nd St., N. Y.
Velsicol Corp., 330 E. Grand Ave., Chicago
Westvaco Chem. Div., Food Machy. & Chem. Corp., 405 Lexington Ave., N. Y.
Wyandotte Chemicals Corp., Wyandotte, Mich.

SOLVENTS, PETROLEUM

American Mineral Spirits Co., 230 N. Michigan Ave., Chicago
Anderson-Prichard Oil Co., Oklahoma City, Okla.
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Carbide & Carbon Chem. Corp., 30 E. 42nd St., N. Y.
Central Solvents & Chemicals Co., 2545 W. Congress St., Chicago 12
Commerce Petroleum Co., 2923 Lock St., Chicago
Deep Rock Hill Corp., 155 N. Clark St., Chicago
E. I. du Pont de Nemours & Co., Wilmington, Del.
Gulf Oil Corp., Pittsburgh 30
Oil States Pet. Co., 233 Broadway, N. Y.
Pennsylvania Refining Co., Butler, Pa.
Phillips Petroleum Co., Chemical Prods. Dep., Bartlesville, Okla.
Chas. L. Read & Co., 120 Greenwich St., N. Y.
Shell Oil Co., 50 W. 50th St., N. Y.
Sinclair Refining Co., 630 5th Ave., N. Y.
Skelly Oil Corp., 605 W. 47th St., Kansas City, Mo.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago
Standard Oil Co. (Ohio), Midland Bldg., Cleveland
Velsicol Corp., 330 E. Grand Ave., Chicago

SOYBEAN OIL

(see also Brokers and Dealers)

Balfour, Guthrie Co., 67 Wall St., N. Y.
Irving R. Boody & Co., 120 Wall St., N. Y.
E. F. Drew & Co., Wecoline Div., Boonton, N. J.
Eastern Industries, Inc., Ridgefield, N. J.
General Mills, Chemical Div., 400 2nd Ave., Minneapolis 1
William O. Goodrich Co., Milwaukee, Wis.
W. R. Grace & Co., 7 Hanover Sq., N. Y.
Spencer Kellogg & Son, Buffalo, N. Y.
Leghorn Trading Co., 21 West St., N. Y.
Pacific Vegetable Oil Co., 62 Townsend St., San Francisco
Procter & Gamble Co., Cincinnati
Purina Mills, St. Louis
Robinson Wagner Co., 110 E. 42nd St., N. Y.
Werner G. Smith Co., 2191 W. 110th St., Cleveland
A. E. Staley Mfg. Co., Decatur, Ill.
Welch, Holme & Clark Co., 439 West St., N. Y.
G. A. Wharry & Co., 95 Broad St., N. Y. 4

SPERMACETI

E. A. Bromund Co., 258 Broadway, N. Y.
A. C. Drury & Co., 210 E. Water St., Chicago
Innis, Speiden & Co., 117 Liberty St., N. Y.
Lenape Trading Co., 233 Broadway, N. Y.
George H. Lincks, 155 John St., N. Y.
Neumann-Buslee & Wolfe, 224 W. Huron St., Chicago
Orbis Products Corp., 215 Pearl St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y.
R. J. Prentiss & Co., 110 William St., N. Y.
Robinson Wagner Co., 110 E. 42nd St., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
L. A. Salomon & Bro., 216 Pearl St., N. Y.
Werner G. Smith Co., 2191 W. 110th St., Cleveland
Smith & Nichols, 121 Maiden Lane, N. Y.
F. W. Steadman Co., 59 Pearl St., N. Y. 4
Strohmeyer & Arpe Co., 139 Franklin St., N. Y.
Will & Baumer Candle Co., Syracuse, N. Y.

SPONGES (Natural and Synthetic)

Addison Sponge Co., 118 E. Court St., Cincinnati
Allied Industrial Prods. Co., 620 N. Michigan, Chicago
American Sponge & Chamois Co., 47 Ann St., N. Y.
American Standard Mfg. Co., 2509 S. Green St., Chicago
Atlas Sponge Co., 291 Church St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington
Florida Sponge & Chamois Co., 42 Cliff St. ,N. Y.
Great Eastern Sponge & Chamois Co., 233 N. Catt. Pk. Ave., Baltimore
James H. Rhodes & Co., 157 W. Hubbard St., Chicago
Robinson Sponge Co., 1805 Atlantic Ave., Brooklyn

SPOTTING FLUIDS (see Cleaning Fluids)

SPOUTS (see Can Spouts, Closures)

SPRAYERS, BOTTLE

Arnold-Copeland Co., 22 Elkins St., So. Boston, Mass.
Federal Tool Corp., 412 N. Leavitt St., Chicago
Wilco Co., 7016 McKinley Ave., Los Angeles

SPRAYERS, COMPRESSED AIR

Acmeline Mfg. Co., Traverse City, Mich.
Binks Mfg. Co., 3114 Carroll Ave., Chicago
E. C. Brown Co., Rochester, N. Y.
Champion Sprayer Co., Detroit 11
R. E. Chapin Mfg. Co., Batavia, N. Y.
DeVilbiss Co., Toledo, O.
Dobbins Mfg. Co., Elkhart, Ind.
Electric Sprayit Co., 1415 Illinois Ave., Sheboygan, Wis.
Fumeral Co., Racine, Wis. (built in systems)
Howard Hanson & Co., Beloit, Wisc.
Hudson Mfg. Co., 589 E. Illinois St., Chicago
Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago
Lofstrand Co., Rockville, Md.
Lowell Mfg. Co., 589 E. Illinois St., Chicago
Piezo Mfg. Corp., 110 E. 42nd St., N. Y.
Simmon Paint Spray Brush Co., Dayton, O.
Universal Metal Prods. Co., Lowell, Mich.
Volume Sprayer Mfg. Co., Tulsa, Okla.

SPRAYERS, ELECTRIC

Acmeline Mfg. Co., Traverse City, Mich.
Binks Mfg. Co., 3114 Carroll Ave., Chicago
DuLa Mfg. Co., 351 Atlantic Ave., Brooklyn, N. Y.
Electric Sprayit Co., 1415 Illinois Ave., Sheboygan, Wis.
Fumeral Co., Racine, Wis.
Hession Microsol Corp., Darien, Conn.
Hudson Mfg. Co., 589 E. Illinois St., Chicago
Lowell Mfg. Co., 589 E. Illinois St., Chicago
Piezo Mfg. Corp., 110 E. 42nd St., N. Y.
Sprayer Corp. of America, 1712 Payne St., Evanston, Ill.

SPRAYERS, ELECTRIC, STEAM

DuLa Mfg. Co., 351 Atlantic Ave., Brooklyn
Electric Sprayit Co., Sheboygan, Wisc.
Fumeral Co., Racine, Wis.
Hydro-Mist Corp., 531 State St., Glendale, Calif.
Kaz Mfg. Co., 611 W. 43rd St., N. Y.
Lowell Mfg. Co., North Pier Terminal, Chicago
Mayfair Industries, 2442 Irving Park Road, Chicago
Sanitary Aids Co., 1200 Switzer Ave., St. Louis

SPRAYERS, HAND

Acmeline Mfg. Co., Traverse City, Mich.
R. E. Chapin Mfg. Co., Batavia, N. Y.
Dobbins Mfg. Co., Elkhart, Ind.
Electric Sprayit Co., 1415 Illinois Ave., Sheboygan, Wis.
Hudson Mfg. Co., 589 E. Illinois St., Chicago
Jaeckh Mfg. Co., Cincinnati
Lowell Mfg. Co., 589 E. Illinois St., Chicago
D. B. Smith Co., Utica, N. Y.
Standard Container, Inc., Rockaway, N. J.
Universal Metal Prods. Co., Lowell, Mich.
Volume Sprayer Mfg. Co., Tulsa, Okla.
Wilco Co., 6800 McKinley Ave., Los Angeles

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This unit available with stainless steel tank, as 44-S

No. 44-G
COMPRESSED AIR SPRAYER

Easy to fill and clean. Flat spray nozzle cap, interchangeable with standard cap, permits application of DDT solutions as a residual spray. Flat, fan-shaped discharge furnishes ideal spray for whitewash, cold water paints, etc.

NO. 80 PATENTED FLAT-SPRAY CAP

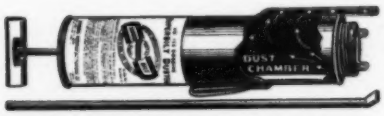


Develops a wide, fan-shaped, flat spray that thoroughly covers a surface two feet in width. Enables the operator to prevent spray on walls, baseboards and furniture. Furnished with No. S-122-G Soap Sprayer.



NO. 35 G HIGH PRESSURE CHEMICAL SPRAYER

The discharge has a wide range of adjustments, from a forceful, penetrating spray, to fine floating fog, with in-between variations. Controlled atomization through air regulator is an exclusive feature.



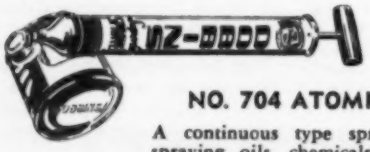
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. . . 3 QUART CAPACITY

With lever control. Can be operated as continuous sprayer by holding lever down while pumping. Very convenient and efficient.



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A continuous type sprayer for spraying oils, chemicals, general household sprays. A popular model in Dobbins complete line of sprayers and atomizers in various sizes; part of these are equipped with patented two-way spray nozzle.



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With air regulator and volume control. 1½ gal. capacity.



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A convenient soap sprayer for janitor service. Hose, valves and all gaskets are made from materials that will withstand the caustic action of soap and cleaners.

DOBBINS MANUFACTURING CO.

ELKHART, INDIANA

Dobbins Superbilt
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SPRAYERS, MOUTH

Acmeline Mfg. Co., Traverse City, Mich.
Arnold-Copeland Co., 22 Elkins St., So. Boston, Mass.
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago
Lowell Mfg. Co., 589 E. Illinois St., Chicago
D. B. Smith & Co., Utica, N. Y.
Standard Container, Inc., Montclair, N. J.

SPRAYERS, POWER (Heavy Duty)

Banta & Driscoll Co., 4729 E. Olympic Blvd., Los Angeles
John Bean Mfg. Co., Div. Food Mach. Co., Lansing, Mich.
Besler Corp., 4053 Harlan St., Emeryville, Calif.
Buffalo Turbine Agri. Equip. Co., Towanda, N. Y.
Champion Sprayer Co., Detroit 11
Dobbins Mfg. Co., Elkhart, Ind.
Electric Sprayit Co., Sheboygan, Wisc.
A. B. Farquhar Co., 142 N. Duke St., York, Pa.
Fumeral Co., Racine, Wis.
Hession Microsol Corp., 166 Post Rd., Darien, Conn.
Howard Hanson & Co., Beloit, Wis.
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago
Hydro-Mist Corp., 531 State St., Glendale, Calif.
Madewell Products, 3125 E. 7th St., Oakland, Calif.
Mayfair Industries, 2442 Irving Park Road, Chicago
Mullen Crafts Co., 25 Pennsylvania St., Evansville, Ind.
Oberdorfer Foundries, Inc., 5100 Thompson Rd., Syracuse
Sprayer Corp. of America, 1712 Payne St., Evanston, Ind.
Todd Shipyards Corp., 601 W. 26th Street, N. Y.
Victor Products Corp., Ransom, W. Va.
Virginia Smelting Co., W. Norfolk, Va.

SPRAYERS, NOZZLES for

Accessories Mfg. Co., 705 McGee St., Kansas City, Mo.
Monarch Mfg. Works, 3406 Miller St., Phila.
Spraying Systems Co., 4027 W. Lake St., Chicago

SPRAY SYSTEMS, PERMANENT INSTALLATIONS

Fumeral Co., Racine, Wisc.
Virginia Smelting Co., West Norfolk, Va.

SPREADERS for INSECTICIDE (see Clays, Emulsifiers, etc.)

SQUEEGEES

Ardmore Mfg. Co., 5082 N. Lincoln Ave., Chicago
W. J. Dennis & Co., 1732 N. Kolmar, Chicago
A. F. Dormeyer Mfg. Co., 4316 N. Kilpatk. St., Chicago
Aug. Hanke & Son Co., 6326 W. Guyer Ave., Chicago
Illinois Duster & Brush Co., 1944 Webster Ave., Chicago
J. Racenstein & Co., 621 Broadway, N. Y.
Reliance Hardware & Mfg. Co., 1438 N. Keating St., Chicago
White Mop Wringer Co., Fultonville, N. Y.

SQUILLS (Rodent Poison)

Heckathorn & Co., Richmond, Calif.
J. L. Hopkins & Co., 220 Broadway, N. Y.
McLaughlin Gormley King Co., 1715 5th St., S. E., Minneapolis, Minn.
S. B. Penick & Co., 50 Church St., N. Y.
R. J. Prentiss & Co., 110 William St., N. Y.
Ratin Laboratory, 116 Broad St., N. Y.
York Chem. Co., 23 Dean St., Brooklyn, N. Y.

STANNOUS CHLORIDE (see Tin Crystals)

STARCH

(see also Dealers)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Arabol Mfg. Co., 110 E. 42nd St., N. Y.
T. G. Cooper & Co., 117 Liberty St., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Keever Starch Co., Columbus, O.
H. Kohnstamm & Co., 91 Park Pl., N. Y.
National Starch Prods., 270 Madison Ave., N. Y.
Orbis Products Corp., 215 Pearl St., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y. 10
L. A. Salomon & Bro., 216 Pearl St.
A. E. Staley Mfg. Co., Decatur, Ill.
Welch, Holme & Clark Co., 439 West St., N. Y.

STEARATES (Zinc, Calcium, Magnesium, etc.)

(see also Dealers)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Antara Prods., 444 Madison Ave., N. Y. 22
Arnold, Hoffman & Co., Providence, R. I.
Cuprinol Inc., 7 Water St., Boston
E. I. du Pont de Nemours & Co., Wilmington, Del.
Glyco Prods. Co., 26 Court St., Brooklyn 2
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y.
W. C. Hardesty Co., 41 E. 42nd St., N. Y. (Glyceryl, Glycol)
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Hooker Electrochemical Co., Niagara Falls, N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mallinckrodt Chem. Wks., St. Louis
Merck & Co., Rahway, N. J.
Metasap Chem. Co., First & Essex Sts., Harrison, N. J.
M. W. Parsons, Inc., 59 Beekman St., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Synthetic Products Co., London Rd. & Euclid Ave., Cleveland
Jos. Turner & Co., Ridgefield, N. J.
Chas. A. Wagner Co., 813 Callowhill St., Phila.
Warwick Wax Co., 10-10 44th Ave., L. I. C. 1, N. Y.
Whittaker, Clark & Daniels, 260 W. Bway., N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.

STEARIC ACID

(see also Brokers and Dealers)

American British Chem. Supplies, Inc., 180 Madison Ave., N. Y.
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Armour Chem. Div., Armour & Co., 1355 W. 31st St., Chicago
Arnold, Hoffman & Co., Providence, R. I.
E. A. Bromund Co., 258 Broadway, N. Y. 7
Celina Stearic Acid Co., Celina, Ohio
Century Stearic Acid Candle Wks., 41 E. 42nd St., N. Y.
Darling & Co., 4201 S. Ashland Ave., Chicago
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Eastern Industries, Inc., Ridgefield, N. J.
Emery Industries, Inc., 4300 Carew Tower, Cincinnati
General Mills, Chemical Div., 400 2nd Ave., Minneapolis 1
A. Gross & Co., 295 Madison Ave., N. Y.
Griffin Chem. Co., 1000 16th St., San Francisco
W. C. Hardesty Co., 41 E. 42nd St., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Merck & Co., Rahway, N. J.
Orbis Products Corp., 215 Pearl St., N. Y.
Procter & Gamble Co., Cincinnati
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Werner G. Smith Co., 2191 W. 110th St., Cleveland
F. W. Steadman Co., 59 Pearl St., N. Y. 4
Theobald Industries, Kearny, N. J.
Arthur C. Trask Co., 4103 S. LaSalle St., Chicago 9
Welch, Holme & Clark Co., 439 West St., N. Y.
M. Werk Co., St. Bernard, Cincinnati
Will & Baumer Candle Co., Syracuse, N. Y.
Wilson-Martin Co., Snyder Ave., & Swanson St., Phila.
Witco Chemical Co., 295 Madison Ave., N. Y.

STEARINE

(see also Brokers and Dealers)

E. A. Bromund Co., 258 Broadway, N. Y. 7
Celina Stearic Acid Co., Celina, Ohio
Darling & Co., 4201 S. Ashland Ave., Chicago
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Durkee Famous Foods, Inc., 2670 Elston Av., Chicago
Eastern Industries, Inc., Ridgefield, N. J.
Emery Industries, Inc., 4300 Carew Tower, Cincinnati

STEARINE (Contd.)

Independent Mfg. Co., Bridesburg P. O., Phila.
Morris Co., Union Stock Yards, Chicago
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco
Procter & Gamble Co., Cincinnati
Werner G. Smith Co., 2191 W. 110th St., Cleveland
Louis Stern Sons, Inc., Produce Exch., N. Y.
Swift & Co., Union Stock Yards, Chicago
Welch, Holme & Clark Co., 439 West St., N. Y.
G. A. Wharry & Co., 95 Broad St., N. Y. 4
Wilson & Co., 4100 Ashland Ave., Chicago
G. S. Ziegler & Co., 233 Bdway., N. Y.

STEARINE PITCH

Allied Asphalt & Mineral Corp., 217 Broadway, N. Y.
Armour Chem. Div., Armour & Co., 1355 W. 31st St., Chicago
Darling & Co., 4201 S. Ashland Ave., Chicago
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Eastern Industries, Inc., Ridgefield, N. J.
Emery Industries, Inc., 4300 Carew Tower, Cincinnati
A. Gross & Co., 295 Madison Ave., N. Y.
W. C. Hardesty Co., 41 E. 42nd St., N. Y.
Procter & Gamble Co., Ivorydale, O.
Werner G. Smith Co., 2191 W. 110th St., Cleveland
Wilson & Co., 4100 Ashland Ave., Chicago
G. S. Ziegler & Co., 233 Broadway, N. Y.

STEEL DRUMS (see Drums, Steel)

STEEL DRYING ROLLS (see Chilling Rolls)

STEEL PAILS (see Pails, Steel)

STEEL NICKEL CLAD, EQUIPMENT

Illinois Steel Co., 208 S. La Salle St., Chicago
International Nickel Co., 67 Wall St., N. Y.
Lukens Steel Co., Coatesville Pa.
Republic Steel Corp., Republic Bldg., Cleveland, O.

STEEL TANKS (see Tanks, Steel)

STEEL, WOOL

American Steel Wool Mfg. Co., 42-24 Orchard St., L. I. City, N. Y.
International Steel Wool Co., Springfield, Ohio
Multi-Clean Prods., Inc., 227 Ford P'kway, St. Paul, Minn.
James H. Rhodes & Co., 157 W. Hubbard St., Chicago
Williams Co., London, Ohio

STODDARD'S SOLVENT (see Solvents, Petroleum)

STORAGE TANKS (see Tanks, Storage, etc.)

SUDSING EQUIPMENT (see Soap Solutionizing Device)

SULFATED FATTY ALCOHOLS (and other Non-Soap Organic Detergents and Derivatives (see also Detergents, Synthetic)

Alrose Chem. Co., Box 1294, Providence, R. I.
Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Colgate-Palmolive-Peet Co., Jersey City, N. J.
E. F. Drew & Co., 15 E. 26th St., N. Y.
E. I. du Pont de Nemours Co., Wilmington, Del.
Emulsol Corp., 59 E. Madison St., Chicago
General Dyestuff Corp., 435 Hudson St., N. Y.
Hummel Chemical Co., 90 West St., N. Y.
N. I. Malmstrom & Co., 147 Lombardy St., Brooklyn
M. Michel & Co., 90 Broad St., N. Y.
Monsanto Chem. Co., 1700 S. 2nd St., St. Louis
National Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City 2
Procter & Gamble Co., Cincinnati
Robinson Wagner Co., 110 E. 42nd St., N. Y.
Sandoz Chemical Works, 61 Van Dam St., N. Y.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Jacques Wolfe & Co., Passaic, N. J.

SULFONATED OILS

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Antara Prods., 444 Madison Ave., N. Y.
Atlantic Refining Co., 260 S. Broad St., Phila.
Carbide & Carbon Chem. Corp., 30 E. 42nd St., N. Y.
Colloids, Inc., 395 Frelinghuysen Ave., Newark, N. J.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Eastern Industries, Inc., Ridgefield, N. J.
Emery Industries, 4300 Carew Tower, Cincinnati
General Dyestuff Corp., 435 Hudson St., N. Y.
Hercules Powder Co., Wilmington
Kali Mfg. Co., 1408 N. Front St., Philadelphia
Nopco Chem. Co., Harrison, N. J.
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City 2
Rare Chemicals, Inc., 1st and Essex Sts., Harrison, N. J.
Salem Oil & Grease Co., Salem, Mass.
Sandoz Chemical Works, 61 Van Dam St., N. Y.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Stepan Chem. Co., 1353 N. Branch St., Chicago 22
Arthur C. Trask Co., 4103 S. La Salle St., Chicago
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Warwick Wax Co., 10-10 44th Ave., L. I. C. 1, N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.
Jacques Wolfe & Co., Passaic, N. J.

SULFOXYLATES (Soap Bleaches)

Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
Jacques Wolfe & Co., Passaic, N. J.

SULFUR CANDLES

Koppers Co., White Tar Div., Kearny, N. J.
Reliable Chemical Co., Passaic, N. J.

SUPERFATTING AGENTS (for Toilet Soaps)

Alrose Chem. Co., Box 1294, Providence, R. I.
Antara Prods. Div., Gen Aniline & Film Corp., 444 Madison Ave., N. Y.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
N. I. Malmstrom Co., 147 Lombardy St., Brooklyn
M. Michel & Co., 90 Broad St., N. Y.
Nopco Chem. Co., Harrison, N. J.
Pfaltz & Bauer, 350 5th Ave., N. Y.
Pylam Products Co., 799 Greenwich St., N. Y.
Robinson Wagner Co., 110 E. 42nd St., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.

SUPERHEATERS

Eureka Machine Co., 2601 Vega Ave., Cleveland
Ernest Scott & Co., Fall River, Mass.
The Superheater Co., 60 E. 42nd St., N. Y.

SURGICAL SOAPS (see Potash Soaps)

SWEEPING COMPOUNDS

American Excelsior Corp., 1000 N. Halstead St., Chicago
American Soap & Washoline Co., Cohoes, N. Y.
Banner Chemical Prod. Corp., 60 Elm St., Newark, N. J.
Baums Castorine Co., 200 Matthews St., Rome, N. Y.
Philip Carey Mfg. Co., Lockland, Cincinnati
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Creco Co., Inc., Creco Bldg., Long Island City, N. Y.
Eagle Soap Corp., Huntington, Ind.
Filtrol Corp., 634 S. Spring St., Los Angeles
Fitch Dustdown Co., 801 S. Howard St., Baltimore
Fuld Bros., 702 S. Wolfe St., Baltimore
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Hysan Products Co., 932 W. 38th Place, Chicago

SWEEPING COMPOUNDS (Contd.)

Imperial Prods. Co., 1600 Fontain St., Phila. 21
Kearny Mfg. Co., Kearny, N. J.
Klix Chem. Co., 2460 Third St., San Francisco
Kamen Soap Prods. Co., Woolworth Bldg., N. Y.
Frank Miller & Sons, 2240 W. 58th St., Chicago
Murro Chemical Co., Asheville, N. C.
Natl. Sawdust Co., 69 N. 6th St., Bklyn.
North Coast Soap & Chem. Wks., Seattle, Wash.
Pacific Chem. Co., 1421 N. Main St., Los Angeles
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Pioneer Mfg. Co., Cleveland, O.
Port Huron Detergent Co., Port Huron, Mich.
Puritan Chem. Co., 209 Peters St., N. W. Atlanta
Riverside Chem. Co., N. Tonawanda, N. Y.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Sanco Prods. Inc., Greenville, O.
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Savin Products Co., 1221 Dorchester Ave., Boston 25
E. B. Snyder Co., 2137 E. Harold St., Philadelphia
Jno. C. F. Snyder & Sons, Inc., 2304 N. 28th St., Phila.
Solshine Mfg. Co., 412—2nd St., Fall River, Mass.
Standard Chem. Co., 213 Jackson St., Houston, Tex.
Sweeping Compound Mnfrs. Co., 421 Broome St., N. Y.
Tesco Chem. Co., P. O. Box 4748. Atlanta
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Texol Chem. Wks., 75 Ward St., Worcester, Mass.
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Specialties Corp., 1003 S. California Blvd., Chicago 12

SYNTHETIC DETERGENTS (see Detergents, Synthetic)

SYNTHETIC INSECTICIDE CONCENTRATES (see Insecticide Concentrates, Synthetic)

SYNTHETIC WAXES (see Waxes, Synthetic)

TALC

American Cyanamid & Chem. Corp., 30 Rockefeller, Plaza, N. Y.
Binney & Smith Co., 41 E. 42nd St., N. Y.
Blue Ridge Talc Co., Henry, Va.
Chas. B. Chrystal Co., 53 Park Pl., N. Y.
A. C. Drury & Co., 219 East North Water St., Chicago
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eastern Magnesia Talc Co., Burlington, Vt.
Enco Chem. Corp., 441 Lexington Ave., N. Y.
Fezandie & Sperrle, 205 Fulton St., N. Y.
Georgia Talc Co., Asheville, N. C.
Goris & Co., 8124 S. Hoyne Ave., Chicago
K. F. Griffiths & Co., 110 E. 42nd St., N. Y.
Hercules Powder Co., Wilmington, Del.
Innis Speiden & Co., 117 Liberty St., N. Y.
Los Angeles Talc Co., Los Angeles, Cal.
Natura Minerals Co., 108 W. 6th St., Los Angeles
Orbis Products Corp., 215 Pearl St., N. Y.
Pacific Coast Talc Co., Los Angeles, Cal.
R. F. Revson Co., 144 W. 18th St., N. Y.
James H. Rhodes & Co., 157 W. Hubbard St., Chicago
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
L. A. Salomon & Bro., 216 Pearl St., N. Y.
F. E. Schundler & Co., Joliet, Ill.
Tamms Silica Co., 228 N. La Salle St., Chicago
Union Talc Co., 147 Nassau St., N. Y.
R. T. Vanderbilt Co., 230 Park Ave., N. Y.
Chas. A. Wagner Co., 813 Callowhill St., Phila.
Welch, Holme & Clark Co., Inc., 439 West St., N. Y.
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.
Wyodak Chemical Co., 4600 E. 71st St., Cleveland

TALL OIL (TALLOL)

Arizona Chemical Co., 30 Rockefeller Plaza, New York
Brunswick Pulp & Paper Co., Brunswick, Ga.
Camp Manufacturing Co., Franklin, Va.
Champion Paper & Fibre Co., Canton, N. C.

THE VANDERBILT LABORATORIES — EAST NORWALK, CONNECTICUT



Veegum Magnesium Aluminum Silicate

VEEGUM is a hydrophyllic colloid forming high viscosity gels at low solids.

Its unique combination of properties points to various applications...as a binder, emulsifier, lubricant, film former, dispersant, suspending agent and thickener.

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R. T. VANDERBILT CO., INC. • *Specialties Department* • 230 PARK AVENUE, NEW YORK 17, N. Y.

TALL OIL (TALLOL) (Contd.)

Concord Chemical Co., Public Ledger Bldg., Phila. 6
Continental Can Co., Hummel-Ross Division, Hopewell, Va.
Gaylord Container Corp., 111 North Fourth St., St. Louis
Gulf States Paper Co., Tuscaloosa, Ala.
National Southern Products Corp., 630 Fifth Avenue, New York
Newport Industries, Inc., 230 Park Avenue, New York
North Carolina Pulp Co., Camden, N. J.
Werner G. Smith Co., 2191 W. 110th St., Cleveland 2
Southern Advance Bag & Paper Co., 38 Newbury St., Boston
Arthur C. Trask Co., 4103 S. LaSalle St., Chicago 9
Union Bag & Paper Corp., 52 Broadway, New York
Welch, Holme & Clark Co., 439 West St., N. Y. 14
West Virginia Pulp & Paper Co., 230 Park Ave., New York
G. A. Wharry & Co., 95 Broad St., N. Y. 4

TALLOW and GREASE

(see also Brokers and Dealers)

Armour & Co., 1355 W. 31st St., Chicago
Belleville Rendering Co., Belleville, Ill.
Borne Scrymser Co., 632 S. Front St., Elizabeth, N. J.
Consolidated Rendering Co., 178 Atlantic Ave., Boston
Cudahy Packing Co., 111 W. Monroe St., Chicago
Darling & Co., 4201 S. Ashland Ave., Chicago
Eastern Industries, Inc., Ridgefield, N. J.
Otto A. C. Hagen Corp., Public Ledger Bldg., Phila.
Independent Mfg. Co., Bridesburg P. O., Phila.
Long Island Soap Co., 29 Bridgewater St., Brooklyn
Louisville Butchers' Hide & Tallow Co., Louisville, Ky.
Newman Tallow & Soap Mach. Co., 1051 W. 35th, Chicago
Willibald Schaefer Co., Foot of Bremen Ave., St. Louis
Werner G. Smith Co., 2191 W. 110th St., Cleveland
Swift & Co., Union Stock Yards, Chicago
Theobald Industries, Kearny, N. J.
Toledo Tallow Co., Toledo, Ohio
Waltham Tallow Co., Waltham, Mass.
Wayne Soap Co., Detroit
Welch, Holme & Clark Co., Inc., 439 West St., N. Y.
Wilson & Co., Union Stock Yards, Chicago
Wilson-Martin Co., Swanson St., Phila.

TALLOW OIL

(see also Brokers and Dealers)

Armour & Co., 1355 W. 31st St., Chicago

TALLOW CHIP SOAP (see Chip Soaps)

Consolidated Rendering Co., 40 N. Market St., Boston
Cudahy Packing Co., 111 W. Monroe St., Chicago
Eastern Industries, Inc., Ridgefield, N. J.
Griffin Chem. Co., 1000 16th St., San Francisco
W. C. Hardesty Co., 41 E. 42nd St., N. Y.
Independent Mfg. Co., Bridesburg, P. O., Phila.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Union Stock Yards, Chicago
Toledo Tallow Co., Toledo, Ohio
Waltham Tallow Co., Waltham, Mass.
Welch, Holme & Clark Co., 439 West St., N. Y.
West Coast Fert. & Rendering Co., Los Angeles
Wilson & Co., Union Stock Yards, Chicago

TANKS (Glass Lined Mixing and Storage)

Allied Steel & Equipt. Co., Chester, N. J.
Alsop Engineering Corp., 103 Green St., Milldale, Conn.
Chemical & Process Machy. Corp., 146 Grand St., N. Y. 13 (Used)
Consolidated Products Co., 15 Park Row, N. Y. (Used)
Edge Moor Iron Wks., 30 Rockefeller Plaza, N. Y.
Ertel Engineering Co., Kingston, N. Y.
Filter Paper Co., 2464 S. Michigan Ave., Chicago
First-Machy. Corp., 157 Hudson St., N. Y. (Used)
Littleford Bros., 453 E. Pearl St., Cincinnati
Metal Glass Products Corp., Belding, Mich.
Mixing Equipment Co., 1067 Garson Ave., Rochester
Newman Tallow & Soap Mach. Co., 1051 W. 35th, Chicago
Pfaudler Co., 89 East Ave., Rochester, N. Y.
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Geo. G. Rodgers Co., 225 W. 34th St., N. Y.
Scientific Filter Co., 1 Franklin Sq., N. Y.
Sprout, Waldron & Co., Muncy, Pa.
Stein Equipment Co., 90 West St., N. Y. (Used)

TANKS (for Liquid Soap Dispensing Systems)

Ampion Corp., 4-88—Forty-seventh Ave., L. I. City, N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
Bobrick Mfg. Corp., 1839 Blake Ave., Los Angeles
Brighton Copper Works, 2163 Western Ave., Cincinnati
Clifton Chemical Co., 62 William St., N. Y.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., Inc., 702 S. Wolfe St., Baltimore
R. M. Hollingshead Corp., Camden, N. J.
Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago
Palmer Fixture Co., Waukesha, Wisc.
John Trageser Steam Copper Works, Grand Ave., Maspeth, L. I., N. Y.
Uncle Sam Chemical Co., 575 W. 131st St., N. Y. 27
U. S. Sanitary Spec. Corp., 1003 S. California Blvd., Chicago 12
West Disinfecting Co., Long Island City, N. Y.

TANKS (Steel Clad-Steel, etc., for Mixing Storage, etc.)

Allied Steel & Equipt. Co., Chester, N. J.
Alloy Prods. Corp., 221 Madison St., Waukesha, Wis.
Alsop Engineering Corp., 103 Green St., Milldale, Conn.
Atlas Steel Construction Co., Irvington, N. Y.
S. F. Bowser & Co., Ft. Wayne, Ind.
Chemical & Process Machy. Corp., 146 Grand St., N. Y. 13 (Used)
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
Edge Moor Iron Wks., Edge Moor, Del.
Filter Paper Co., 2464 S. Michigan Ave., Chicago
First Machy. Corp., 157 Hudson St., N. Y. (Used)
William Garrigue & Co., 9 S. Clinton St., Chicago
General American Transportation Corp., 135 S. LaSalle St., Chicago
Graver Tank & Mfg. Corp., 332 S. Michigan, Chicago
Houchin Machinery Co., Hawthorne, N. J.
Hudson Mfg. Co., 589 E. Illinois St., Chicago
Illinois Steel Corp., 208 S. LaSalle St., Chicago
Industrial Process Engineers, 8 Lister Ave., Newark 5, N. J.
Lancaster Iron Works, 564 S. Prince St., Lancaster, Pa.
J. M. Lehmann Co., Lyndhurst, N. J.
Littleford Bros., 453 E. Pearl St., Cincinnati
Lukens Steel Corp., Coatesville, Pa.
Mixing Equipment Co., 1067 Garson Ave., Rochester
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Patterson Foundry & Machine Co., East Liverpool, Ohio
Patterson-Kelley Co., East Stroudsburg, Pa.
Petroleum Iron Works, Sharon, Pa.
Pfahler Cleland Co., Galion, O.
Pfaudler Co., Rochester, N. Y.
Pioneer Tank & Boiler Co., Tulsa, Okla.
H. K. Porter Co., 49th & Harrison Sts. Pittsburgh
Read Machy. Co., York, Pa.
Geo. G. Rodgers Co., 225 W. 34th St., N. Y.
Sprout, Waldron & Co., Muncy, Pa.
Stein Equipment Co., 90 West St., N. Y. (Used)
Struthers-Wells Corp., Warren, Pa.
John Trageser Steam Copper Works, Grand St., Maspeth, L. I., N. Y.
Valley Foundry & Machine Works, 710 H St., Fresno 10, Calif.

TANKS (Wooden, Mixing, Storage, etc.)

Atlantic Tank & Barrel Co., North Bergen, N. J.
J. H. Day Co., 1144 Harrison Ave., Cincinnati
General Tank Corp., 30 Church St., N. Y.
Hauser-Stander Tank Co., Ivorydale, Cinn.
H. D. Hudson Mfg., 589 E. Illinois St., Chicago
Kalamazoo Tank & Silo Co., Kalamazoo, Mich.
New England Tank & Tower Co., Everett, Mass.
Pacific Tank & Pipe Co., 334 Market St., San Francisco

TANKS (Wooden, Mixing, Storage, etc.) (Contd.)

H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Read Machy. Co., York, Pa.
Sprout, Waldron & Co., Muncy, Pa.
Tippett & Wood, Phillipsburg, N. J.

TAR ACID OIL (see Coal Tar Raw Materials)

TAR ACIDS, High Boiling

American-British Chem. Supplies, Inc., 180 Madison Ave., N. Y.
Baird & McGuire, Inc., Holbrook, Mass.
Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
S. H. Bell Co., 1407 Gulf Bldg., Pittsburgh
Coal Tar Chemicals Corp., 420 Lexington Ave., N. Y.
Concord Chemical Co., Public Ledger Bldg., Phila. 6
E. I. du Pont de Nemours & Co., Wilmington, Del.
James Huggins & Son, 239 Medford St., Malden, Mass.
Koppers Co., Koppers Bldg., Pittsburgh, Pa.
Mirvale Chem. Co., Ltd., Mirfield, Yorks, England
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis
Neville Co., Pittsburgh
Reilly Tar & Chem. Co., Indianapolis
Shell Oil Co., 50 W. 50th St., N. Y.
James Varley & Sons, 1200 Switzer Ave., St. Louis

TERPENYL ACETATE (see Aromatic Chemicals)

TERPINEOL

(see also Essential Oils)

van Ameringen-Haebler, Inc., 315 Fourth Ave., N. Y.
Aromatic Products, Inc., 15 E. 30th St., N. Y.
Dodge & Olcott, Inc., 180 Varick St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Felton Chemical Co., 603 Johnson Ave., Brooklyn, N. Y.
Firmenich & Co., 250 W. 18th St., N. Y.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Verona Chem. Co., 26 Verona Ave., Newark, N. J.

TETRACHLORETHYLENE (see Solvents, Organic)

TETRASODIUM PYROPHOSPHATE

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Blockson Chemical Co., Joliet, Ill.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
E. I. du Pont de Nemours & Co., Wilmington, Del.
A. R. Maas Chem. Co., South Gate, Calif.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Philipp Bros., 37 Wall St., N. Y.
Victor Chem. Wks., 141 W. Jackson Blvd., Chicago
Virginia-Carolina Chem. Corp., Richmond 5, Va.
Welch, Holme & Clark Co., 439 West St., N. Y.
Westvaco Chem. Div., Food Machy. & Chem. Corp., 405 Lexington Ave., N. Y.

TEXTILE SOAPS

Alrose Chem. Co., Box 1294, Providence, R. I.
American Soap & Washoline Co., Cohoes, N. Y.
Armour Soap Wks., 1355 W. 31st St., Chicago
Atlas Powder Co., Wilmington 99, Dela.
Beach Soap Co., Lawrence, Mass.
Carlstadt Chem. Co., Carlstadt, N. J.
Chemical Mfg. & Dist. Co., Easton, Pa.
Chem. Service Co. of Balto., Howard & West Sts., Balto.
Clifton Chemical Co., 62 William St., N. Y.
Colgate-Palmolive-Peet Co., Jersey City, N. J.
J. O. Draper Co., Pawtucket, R. I.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eagle Soap Corp., Huntington, Ind.
J. Eavenson & Sons, Del. & Penn Sts., Camden, N. J. . .
Enterprise Mill Soap Wks., 2231 N. 12th St., Philadelphia
Haag Labs., 140th & Seeley Ave., Blue Island, Ill.
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Arnold Hoffman & Co., Providence, R. I.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Iowa Soap Co., 810 Valley St., Burlington, Ia.
Kearny Mfg. Co., Kearny, N. J.
Knox-All Corp., 1005 E. Sumner Ave., Indianapolis
H. Kohnstamm & Co., 91 Park Pl., N. Y.
Laurel Soap Mfg. Co., Tioga St., Phila.
Long Island Soap Co., Meeker Ave. & Bridgewater St., Brooklyn, N. Y.
Los Angeles Soap Co., Los Angeles, Cal.
M. Michel & Co., 90 Broad St., N. Y.
Miranol Chemical Co., 16 Mellville Pl., Irvington, N. J.
Nopco Chem. Co., Harrison, N. J.
National Soap Co., 357 South 26th St., Tacoma, Wash.
Newel Gutradt & Co., 350 Fremont St., San Francisco
Onyx Oil Chemical Co., Warren & Morris Sts., Jersey City 2
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Co., Cincinnati
Puritan Soap Co., 573 Lyell Ave., Rochester, N. Y.
Quaker Chem. Prods. Co., Conshohocken, Pa.
Rome Soap Mfg. Co., N. Y.
Sandoz Chemical Works, 61 Van Dam St., N. Y.
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Scholler Bros., 3301 Amber St., Philadelphia
Seaboard Distributors, 60 Park Pl., Newark, N. J.
Geo. E. Sherman Co., 153 Classon Ave., Brooklyn, N. Y.
E. B. Snyder Labs., 2137 E. Harold St., Phila. 25
John T. Stanley Co., 642 W. 30th St., N. Y.
Superior Soap Corp., 121 Nostrand Ave., Brooklyn
Swift & Co., Union Stock Yards, Chicago
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Ultra Chem. Wks., Inc., 2 Wood St., Paterson, N. J.
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
Warwick Wax Co., 10-10 44th Ave., L. I. C., 1, N. Y.
M. Werk Co., St. Bernard, Cincinnati
Jacques Wolf & Co., Passaic, N. J.
G. H. Wood & Co., Toronto, Ont., Canada
Chas. W. Young & Co., 1247 N. 26th St., Phila.

TEXTILE SODA (see Soda)

TEXTILE SPECIALTIES (Oils, Softeners, etc.)

Alrose Chem. Co., Box 1294, Providence, R. I.
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Arabol Mfg. Co., 110 E. 42nd St., N. Y. 17
Atlas Powder Co., Wilmington, Del.
Borne Scrymser Co., 632 S. Front St., Elizabeth, N. J.
Carbide & Carbon Chem. Corp., 30 E. 42nd St., N. Y.
Carlstadt Chem. Co., Carlstadt, N. J.
Clarkson Co., 919 N. 9th St., Phila. 9
Commercial Solvents Corp., 17 E. 42nd St., N. Y.
Cowles Chemical Co., 7016 Euclid Ave., Cleveland
J. O. Draper Co., Pawtucket, R. I.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
E. I. du Pont de Nemours & Co., Wilmington, Del.
Emery Industries, Inc., Carew Tower, Cincinnati
Emulsol Corp., 59 E. Madison St., Chicago
Enterprise Mill Soap Wks., 2231 N. 12th St., Philadelphia
Franklin Research Co., 5134 Lancaster Ave., Phila.
Geigy Co., 89 Barclay St., New York
General Dyestuff Corp., 435 Hudson St., N. Y.
Glyco Products Co., 26 Court St., Bklyn., N. Y.
W. C. Hardesty Co., 41 E. 42nd St., N. Y.
Hercules Powder Co., Wilmington, Del.
Arnold Hoffman & Co., Providence, R. I.
Kearny Mfg. Co., Kearny, N. J.
Knox-All Corp., 1005 E. Sumner Ave., Indianapolis
Laurel Soap Mfg. Co., Tioga St., Phila., Pa.
M. Michel & Co., 90 Broad St., N. Y.
Miranol Chemical Co., 16 Melville Pl., Irvington, N. J.
Napthole, Inc., 15 E. 26th St., N. Y.
National Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Nopco Chem. Co., Harrison, N. J.
National Soap Co., 357 South 26th St., Tacoma, Wash.
National Starch Prods. Co., 820 Greenwich St., N. Y.
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City 2
Pennsylvania Refining Co., Butler, Pa.

TEXTILE SPECIALTIES (Oils, Softeners, etc.) (Contd.)

Protean Chemical Corp., 150 Nassau St., N. Y. 7
Publicker Industries, 1429 Walnut St., Phila. 2
Quaker Chem. Prods. Co., Conshohocken, Pa.
Rumford Chem. Works, Rumford, R. I.
Sandoz Chemical Works, 61 Van Dam St., N. Y.
Scholler Bros., 3301 Amber St., Philadelphia
Seaboard Distributors, 60 Park Pl., Newark, N. J.
Geo. E. Sherman Co., 153 Classon Ave., Brooklyn, N. Y.
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Ultra Chem. Works, Inc., 2 Wood St., Paterson, N. J.
Washine-National-Sands, Inc., 37-02 Northern Blvd., Long Island City, N. Y.
Warwick Wax Co., 10-10 44th Ave., L. I. C. 1, N. Y.
Woburn Chemical Corp., Harrison, N. J.
Jacques Wolf & Co., Passaic, N. J.
Chas. W. Young & Co., 1247 N. 26th St., Phila.

THALLIUM SULFATE

Foote Mineral Co., 1609 Summer St., Phila.
Merck & Co., Rahway, N. J.
Pfaltz & Bauer, Inc., 350—5th Ave., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.

THEATRE SPRAYS

Albert Albek, Inc., 515 S. Fairfax Ave., Los Angeles
Antiseptol Co., 5524 Northwest Highway, Chicago
Banner Chemical Prod. Corp., 60 Elm St., Newark, N. J.
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Brilco Labs., 947—61st Bklyn.
Cadet Laboratories, 10 Clarence St., Worcester 5, Mass.
Cenol Co., 4250 Pulaski Ave., Chicago
Chemical Compounding Corp., 262 Huron St., Brooklyn
Chemical Mfg. & Dist. Co., Easton, Pa.
Chem. Service Co. of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 Throop St., Chicago
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
Eagle Soap Corp., Huntington, Ind.
Elkay Products Corp., 323 W. 16th St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., Kensington, Phila.
Higley Chemical Co., Dubuque, Iowa
Hockwald Chemical Co., 135 Mississippi St., San Francisco
Hunt Mfg. Co., Lisbon Rd., Cleveland
Hysan Prods. Co., 932 W. 38th Place, Chicago
Imperial Prods. Co., 1600 Fontain St., Phila.
Jansen Soap & Chemical Co., 324 Leavenworth St., San Francisco, Cal.
Lewis Soap & Chem. Co., Oakland, Cal.
Lorenz Chemical Co., 135 N. 32nd Ave., Omaha
Midland Labs., Dubuque, Ia.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Perry Bros., Inc., 220 Flushing Ave., Brooklyn
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Rochester Sanitary Prods. Co., 874 Seward St., Rochester, N. Y.
Selig Co., 336 Marietta St., Atlanta, Ga.
E. B. Snyder Labs., 2137 E. Harold St., Philadelphia
Tech Soap Co., 125 W. 46th Pl., Chicago
Tesco Chem. Co., P. O. Box 4748, Atlanta
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Texol Chem. Wks., 75 Ward St., Worcester, Mass.
Trio Chem. Wks., 341 Scholes St., Bklyn. 6
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Specialties Corp., 1003 S. California Blvd., Chicago 12
Victory Chem. Co., 148 Fairmount Ave., Phila.
G. H. Wood & Co., Toronto, Ont., Canada
World Spray Co., Inc., 5117 Central Ave., Los Angeles
York Chemical Co., 23 Dean St., Bklyn.

THERMOMETERS (see Instruments)

THYME OIL (see Essential Oils)

THYMOL (see Aromatic Chemicals)

TIGHT WRAPPING MACHINERY (see Wrapping Machinery)

TIN CRYSTALS (Stannous Chloride)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
J. T. Baker Chem. Co., Phillipsburg, N. J.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Metal & Thermit Corp., 120 Broadway, N. Y.

TITANIUM OXIDE (for toilet soaps)

Chemical & Pigment Co., St. Helena, Baltimore
E. I. du Pont de Nemours & Co., Wilmington, Del.
Foote Mineral Co., 1609 Summer St., Phila.
Titanium Pigment Co., 111 Broadway, N. Y.
R. T. Vanderbilt Co., 230 Park Ave., N. Y.
Whittaker, Clark & Daniels, 260 W. Bdway., N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.

TOILET PAPER

Brown Co., Portland, Me.
Hoberg Paper & Fibre Co., Green Bay, Wisc.
Scott Paper Co., Chester, Pa.
Straubel Paper Co., Green Bay, Wis.
Victoria Paper Mills Co., Fulton, N. Y.
Wheeler Paper Co., 299 Madison Ave., N. Y.

TOILET PREPARATIONS (Private Label)

(see also Bath Salts, Shampoos, etc.)

Allied Products, Inc., Suffern, N. Y.
Corn King Co., Cedar Rapids, Ia.
Fuld Bros., 702 S. Wolfe St., Baltimore 3
R. Gesell, Inc., 200 W. Houston, N. Y.
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N. J.
Perry Bros., Inc., 220 Flushing Ave., Brooklyn
Protecto Prods. Co., 1450 Holt Ave., Pomona, Calif.
Schmidt Soap Products Co., 236 W. North Ave., Chicago
Shores Co., Cedar Rapids, Ia.
John T. Stanley Co., 642 W. 30th St., N. Y.
G. H. Wood & Co., Toronto, Ont., Canada
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

TOILET SEAT COVERS

Lorco Industries, Clarke & Hornet Sts., Cincinnati
Morton Mfg. Co., 5105 W. Lake St., Chicago
National Towel Bendon Ltd., 12 Stewart St., San Francisco
Sani-Gard Cover Co., 411 W. 5th St., Los Angeles

TOILET SOAP BASE (for Cakes)

Armour Soap Wks., 1355 W. 31st St., Chicago
Colgate-Palmolive-Peet, Co., Jersey City, N. J.
Hewitt Soap Co., Dayton, O.
Los Angeles Soap Co., Los Angeles, Cal.
Nopco Chem. Co., Harrison, N. J.
Peck's Products, 610 E. Clarence Ave., St. Louis
Procter & Gamble Co., Cincinnati
Schmidt Soap Products Co., 236 W. North Ave., Chicago
Swift & Co., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

TOXAPHENE

Hercules Powder Co., Wilmington 99, Dela.

TOXAPHENE FORMULATIONS (Bases and Finished Sprays and Powders)

Agricultural Chemicals, Inc., Llano, Texas

TOXAPHENE FORMULATIONS (Bases and Finished Sprays and Powders) (Contd.)

Allied Chemical & Dye Corp., General Chem. Division, 40 Rector St., N. Y. 6
Agricultural Chemical & Sulfur Co., 417 N. Perry St., Montgomery, Ala.
Ashcraft Wilkinson Co., Atlanta, Ga.
California Spray-Chemical Corp., Richmond, Calif.
Chipman Chemical Co., Bound Brook, N. J.
E. I. du Pont de Nemours & Co., Wilmington, Dela.
Flag Sulfur & Chem. Co., Tampa, Fla.
Niagara Sprayer & Chemical Div., Food Machy. Corp., Middleport, N. Y.
Geigy Co., 89 Barclay St., New York
McConnon & Co., Winona, Minn.
Pennsylvania Salt Mfg. Co., Widener Bldg., Philadelphia
Pittsburgh Agricultural Chem. Co., 350 5th Ave., N. Y. 1
John Powell & Co., 1 Park Ave., N. Y. 16
R. J. Prentiss & Co., 100 William St., N. Y. 7
Stauffer Chem. Co., 420 Lexington Ave., N. Y. 7
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City, Mo.
Tyner-Petrus Co., 100 Trenton St., West Monroe, La.
Valley Chem. Co., Greenville, Miss.

TOILET SOAP MILLS (see Soap Machinery)

TOILET SOAPS (Private Label)

Armour Soap Wks., 1355 W. 31st St., Chicago
Arrow Laboratories, 236 W. North Ave., Chicago
Baum's Castorine Co., Rome, N. Y.
Colgate-Palmolive-Peet Co., Jersey City, N. J.
Cudahy Packing Co., 221 N. LaSalle St., Chicago
J. Eavenson & Sons, Del & Penn Sts., Camden, N. J.
James Good Co., Susquehanna Ave., & Martin St., Phila.
Haag Labs., Inc., P. O. Box 114, Blue Island, Ill.
Hewitt Soap Co., Dayton, O.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Long Island Soap Co., 29 Bridgewater St., Brooklyn
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N. J.
Los Angeles Soap Co., Los Angeles, Cal.
National Soap Co., Box 1613, Tacoma, Wash.
Newell, Gutradt Co., 350 Fremont St., San Francisco
North Coast Soap & Chem. Wks., Seattle, Wash.
Peck's Products, 610 E. Clarence Ave., St. Louis
Procter & Gamble, Cincinnati
Schmidt Soap Products Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Vliet Soap Co., 638 Monroe St., Brooklyn
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
M. Werk Co., St. Bernard, Cincinnati
Wolf Creek Soap Co., Dayton, Ohio
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

TOOTH PASTE (Private Label)

Corn King Co., Cedar Rapids, Ia.
R. Gessell, Inc., 200 W. Houston St., N. Y.
McKesson & Robbins, 3674 3rd Ave., N. Y.
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
Strong Cobb & Co., Cleveland
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

TOWELS, PAPER (see Paper Towels)

TRICHLORETHYLENE (see Solvents, Organic)

TRIETHANOLAMINE

Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Dow Chemical Co., Midland, Mich.

TRIETHANOLAMINE SOAPS

Alrose Chem. Co., Box 1294, Providence, R. I.
Chem. Mfg. & Dist. Co., Easton, Pa.
Chem. Service Co. of Balto., Howard & West St., Balto.
Chicago Sanitary Prods., 3100 S. Throop St., Chicago 8
Clifton Chemical Co., 62 William St., N. Y.
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
Davies-Young Soap Co., Dayton, O.
Fuld Bros., Inc., 702 S. Wolfe St., Baltimore
James Good, Inc., 2116 E. Susquehanna Ave., Phila.
Griffin Chem. Co., 1000 16th St., San Francisco
Hysan Prods. Co., 932 W. 38th Place, Chicago
Kranich Soap Co., 60 Richards St., Bklyn.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Quaker Chem. Prods. Co., Conshohocken, Pa.
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
E. B. Snyder Labs., 2137 E. Harold St., Philadelphia

TRIPOLI (see Abrasives and Fillers)

TRISODIUM PHOSPHATE

(see also Brokers and Dealers)

E. I. du Pont de Nemours Co., Wilmington, Del.
Amer. Agricultural Chem. Co., 50 Church St., N. Y.
American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N. Y.
Blockson Chemical Co., Joliet, Ill.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Emeryville Chem. Co., 405 Montgomery St., San Francisco
General Chemical Div., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Innis, Speiden & Co., 117 Liberty St., N. Y.
A. R. Maas Chem. Co., South Gate, Calif.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis
Philipp Bros., 37 Wall St., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Victor Chemical Works, 141 W. Jackson Blvd., Chicago
Virginia-Carolina Chemical Corp., Richmond, Va.
Westvaco Chem. Div., Food Machy. & Chem. Corp., 405 Lexington Ave., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.

TRUCKS (Lift Trucks, etc.)

American Car & Foundry Co., 30 Church St., N. Y.
J. H. Day Co., 1144 Harrison Ave., Cincinnati
Fairbanks, Morse & Co., 900 S. Wabash St., Chicago
Houchin Machinery Co., Hawthorne, N. J.
Frank G. Hough Co., Libertyville, Ill.
G. B. Lewis Co., Watertown, Wisc.
Self-Lifting Piano Truck Co., Findlay, Ohio

TUBE FILLING MACHINERY (see Filling Machinery, Tubes)

TUBES (Collapsible)

Aluminum Company of America, Gulf Bldg., Pittsburgh
Art Tube Co., Irvington, N. J.
Bond Penn Tube Co., 501 Monroe St., Wilmington, Del.
Consolidated Fruit Jar Co., New Brunswick, N. J.
Globe Collapsible Tube Corp., 28 Columbia Heights, Brooklyn, N. Y.
Hygienic Tube Co., 34 Ave. L., Newark, N. J. (Celluloid)
National Collapsible Tube Co., Providence, R. I.
Peerless Tube Co., Bloomfield, N. J.
Sheffield Tube Co., New London, Conn.
Sun Tube Corp., Hillside, N. J.
Victor Metal Products Corp., Brooklyn, N. Y.
White Metal Mfg. Co., 1012 Grand St., Hoboken, N. J.
Wilco Co., 6800 McKinley Ave., Los Angeles
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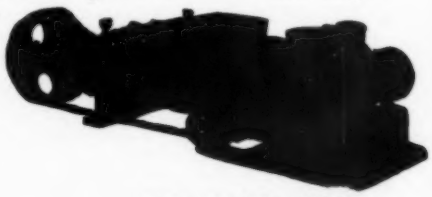
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Allbright-Nell 10 inch Plodders.
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Crosby Chemicals, Inc., DeRidder, La.
Dixie Pine Prods. Co., Hattiesburg, Miss. (wood)
Georgia Rosin Prods. Co., Brunswick, Ga.
Glidden Co., P. O. Box 380, Jacksonville, Fla.
Hercules Powder Co., Wilmington, Del. (wood)
Industrial Chem. Sales Div., 230 Park Ave., N. Y.
Newport Industries, Inc., 230 Park Ave., N. Y.
Phoenix Naval Stores Co., Gulfport, Miss. (wood)
Taylor, Lowenstein & Co., Mobile, Ala.
Arthur C. Trask Co., 4103 S. LaSalle St., Chicago 9
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Consolidated Prods. Co., 15 Park Row, N. Y.
Emsco Equipment Co., 39 Hyatt Ave., Newark, N. J.
J. L. Ferguson Co., Joliet, Ill.
Filter Paper Co., 2464 S. Michigan Ave., Chicago
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Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 265 46th St., Brooklyn
J. M. Lehmann Co., Lyndhurst, N. J.
Machinery & Equipment Co., 533 W. Broadway, N. Y.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago
Perry Equipment Corp., 1515 W. Thompson St., Phila. 21
Prater Pulverizing Co., 1825 S. 55th Ave., Chicago
Stein Equipment Co., 90 West St., N. Y.
Union Standard Equipment Co., 318 Lafayette St., N. Y. 12
Weigh Right Automatic Scale Co., 404 Grant Ave., Joliet, Ill.

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Continental Car-Na-Var Corp., Brazil, Ind.
Hild Floor Machine Co., 1313 W. Randolph St., Chicago
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago
Multi-Clean Prods., 2277 Ford Pkwy., St. Paul
Rex-Cleanwall Corp., Brazil, Ind.

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Aromatic Products, Inc., 15 E. 30th St., N. Y.
Dodge & Olcott Inc., 180 Varick St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Felton Chemical Co., 603 Johnson Ave., Brooklyn, ... Y.
Fries Bros., 90 Reade St., N. Y.
General Drug Co., 170 Varick St., N. Y.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y.
Maywood Chemical Co., Maywood, N. J.
Merck & Co., Rahway, N. J.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis, Mo.
Verona Chemical Co., Verona Ave., Newark, N. J.

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Brown Co., Portland, Me. (Soap and Taper Towel)
Hospital Specialty Co., 1980 E. 66th St., Cleveland, O. (Sanitary Napkin)
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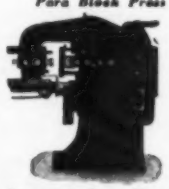
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Alsop Engineering Corp., 103 Green St., Milldale, Conn.
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Chemical & Process Machy. Corp., 146 Grand St., N. Y. 13 (Used)
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First Machy. Corp., 157 Hudson St., N. Y. (Used)
Hornney & Co., 420 Lexington Ave., N. Y.
Karl Kiefer Machine Co., 919 Martin St., Cincinnati, O.
Newman Tallow & Soap Mach. Co., 1051 W. 35th, Chicago (Used)
Stein Equipment Co., 90 West St., N. Y. (Used)
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Eureka Machine Co., 2061 Vega Ave., Cleveland
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Harnischfeger Corp., 4400 W. National Ave., Milwaukee
Vol-U-Meter Co., 707 Ohio St., Buffalo

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WASTE RECEPTACLES (see Pails, Steel)

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Antara Prods., 444 Madison Ave., N. Y.
Baum's Castorine Co., Rome, N. Y.
Bersworth Chem. Co., Framingham, Mass.
Blockson Chemical Co., Joliet, Ill.
Carbide & Carbon Chem. Corp., 30 E. 42nd St., N. Y.
Chemical Mfg. & Dist. Co., Easton, Pa.
Corn King Co., Cedar Rapids, Ia.
Filter Paper Co., 2464 S. Michigan Ave., Chicago
Gaylord Chem. Co., 701 Woodswether Rd., Kansas City
General Dyestuff Corp., 435 Hudson St., N. Y.
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Jansen Soap & Chemical Co., 324 Leavenworth St., San Francisco, Calif.
Kearny Mfg. Co., Kearney, N. J.
A. R. Maas Chem Co., South Gate, Calif.
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Mathieson Chemical Corp., 60 E. 42nd St., N. Y.
Miranol Chem. Co., 16 Melville Pl., Irvington, N. J.
Monsanto Chem. Co., 1700 S. 2nd St., St. Louis
Permutit Co., 330 W. 42nd St., N. Y.
Pittsburgh Plate Glass Co., 5th & Bellefield, Pittsburgh
Port Huron Detergent Co., Port Huron, Mich.
Procter & Gamble Co., Cincinnati
Quaker Chem. Prods. Co., Conshohocken, Pa.
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Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Rumford Chem. Works, Rumford, R. I.
Shores Co., Cedar Rapids, Ia.
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
E. B. Snyder Labs., 2137 E. Harold St., Philadelphia
Solvay Sales Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Verona Chem. Co., 26 Verona, Newark, N. J.
Westvaco Chem. Div., Food Machy. & Chem. Corp., 405 Lexington Ave., N. Y.

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F. J. Stokes Machine Co., Tabor Rd., Phila., Pa.

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E. A. Bromund Co., 256 Broadway, N. Y.
Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Concord Chem. Co., Independence Sq., Phila.
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Cornelius Prods. Co. 386 4th Ave., N. Y.
Wm. Diehl & Co., 336 W. 42nd St., N. Y. 18
Distributing & Trading Co., 444 Madison Ave., N. Y.
A. C. Drury & Co., 219 East North Water St., Chicago
Industrial Raw Materials Corp., 52 Wall St., N. Y.
O. G. Innes Corp., 82 Wall St., N. Y. 5
Innis, Speiden & Co., 117 Liberty St., N. Y.
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W. & A. Leaman, 17 State St., N. Y.
Lenape Trading Co., 233 Broadway, N. Y.
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Muench-Kreuzer Candle Co., Syracuse, N. Y.
Orbis Products Corp., 215 Pearl St., N. Y.
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Strahl & Pitsch, 141 Front St., N. Y.
Strohmeyer & Arpe, 139 Franklin St., N. Y.
Arthur C. Trask Co., 4103 LaSalle St., Chicago 9
Warwick Wax Co., 10-10 44th Ave., L. I. C. 1, N. Y.
Wax & Rosin Prods., 42 Broadway, N. Y. 4
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Armour Chem. Div., Armour & Co., 1355 W. 31st St., Chicago
Atlas Powder Co., Wilmington, Del.
Avon Trading Co., 401 Bdway., N. Y.
Bakelite Corp., 30 E. 42nd St., N. Y.
E. A. Bromund Co., 258 Broadway, N. Y. 7
Carlstadt Chem. Co., Carlstadt, N. J.
Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
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W. C. Hardesty Co., 41 E. 42nd St., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
International Wax Refining Co., 4415—3rd Ave., B'klyn
Monsanto Chem. Co., 1700 S. 2nd St., St. Louis
Oil States Pet. Co., 233 Broadway, N. Y.
Petrolite Corp., Ltd., 5515 Anaheim Telegraph Rd., Los Angeles, Cal.
Pennotex Oil Corp., 29 Broadway, N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Wm. H. Scheel, Inc., 38 Franklyn St., Bklyn. 22
Sherwood Refining Co., Englewood, N. J.
F. W. Steadman Co., 59 Pearl St., N. Y.
Strahl & Pitsch, 141 Front St., N. Y.
Van Dyk & Co., Belleville, N. J.
Warwick Wax Co., 10-10 44th Ave., L. I. C. 1, N. Y.
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Chipman Chem. Co., Bound Brook, N. J.
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Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Co., 89 Barclay St., N. Y. 8
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
James Good Co., Susquehanna Ave. & Martha St., Phila.
Goulard & Olena, Skillman, N. J.
Heckathorn & Co., Richmond, Calif.
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Kolker Chemical Works, 80 Lister Ave., Newark 5, N. J.
Koppers Co., Pittsburgh
Michigan Chemical Corp., St. Louis, Mich.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis
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Skotch Prods. Corp., 2710 Detroit Ave., Cleveland 13
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Read Machy. Co., York, Pa.
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Stokes & Smith Co., 4915 Summerdale Ave., Phila.
Triangle Package Machinery Co., 6633 W. Diversey Blvd., Chicago
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Weigh Right Automatic Scale Co., Joliet, Ill.

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Armour & Co., 1355 W. 31st St., Chicago
Arabol Mfg. Co., 110 E. 42 St., N. Y. 17
Atlantic Refining Co., 260 S. Broad St., Philadelphia
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General Dyestuff Corp., 435 Hudson St., N. Y.
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Hercules Powder Co., Wilmington, Del.
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Innis, Speiden & Co., 117 Liberty St., N. Y. 6
Kearny Mfg. Co., Kearny, N. J.
Maywood Chem. Wks., Maywood, N. J.
M. Michel & Co., 90 Broad St., N. Y.
Miranol Chem. Co., 16 Melville Pl., Irvington, N. J.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis
National Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Nopco Chem. Co., Harrison, N. J.
Oronite Chem. Co., 200 Bush St., San Francisco
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis 15
Procter & Gamble Co., Cincinnati
Protean Chemical Corp., 150 Nassau St., N. Y. 7
Publicker Industries, 1429 Walnut St., Phila.
Quaker Chem. Prods. Co., Conshohocken, Pa.
Refined Prods. Corp., Lyndhurst, N. J.
Robinson Wagner Co., 110 E. 42nd St., N. Y.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
E. B. Snyder Labs., 2137 E. Harold St., Philadelphia
Sharples Chemicals, Inc., 1235 Broad St., Phila.
Solvay Sales Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Stanco Distributors, Inc., 216 W. 14th St., N. Y.
Stepan Chem. Co., 1353 N. Branch St., Chicago 22
Ultra Chemical Works, 2 Wood St., Paterson, N. J.
Van Dyk & Co., Belleville, N. J.
Victor Chem. Works, 141 W. Jackson Blvd., Chicago
Virginia-Carolina Chem. Corp., Richmond, Va.
Warwick Wax Co., 10-10 44th Ave., L. I. C. 1, N. Y.
Jacques Wolfe & Co., Passaic, N. J.
Wyandotte Chemicals Corp., Wyandotte, Mich.

WHALE OIL

(*see also Brokers and Dealers*)

F. A. Marsily & Co., 15 Whitehall St., N. Y.
Murray Oil Prods. Co., 21 West St., N. Y.
J. H. Redding Co., 17 Battery Pl., N. Y.
Werner G. Smith Co., 2191 W. 110th St., Cleveland
Arthur C. Trask Co., 4103 S. LaSalle St., Chicago
Welch, Holme & Clark Co., 439 West St., N. Y.
Wilbur-Ellis Co., 17 Battery Pl., N. Y.

WHALE OIL SOAPS

(*see also Fish Oil Soaps*)

Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
James Good, Inc., 2116 E. Susquehanna Ave., Phila.
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Nopco Chem. Co., Harrison, N. J.
Newell, Gutradt Co., 350 Fremont St., San Francisco
National Soap Co., Box 1613, Tacoma, Wash.
North Coast Chemical & Soap Works, Seattle, Wash.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Co., Cincinnati
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Werner G. Smith Co., 2191 W. 110th St., Cleveland

WHITE MINERAL OILS

Atlantic Refining Co., 260 S. Broad St., Philadelphia
Oil States Pet. Co., 233 Broadway, N. Y.
Pennsylvania Refining Co., Butler, Pa.
Petroleum Specialties, Inc., 400 Madison Ave., N. Y.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
Sherwood Refining Co., Englewood, N. J.
Werner G. Smith Co., 2191 W. 110th St., Cleveland
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago
F. W. Steadman Co., 59 Pearl St., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.

WHITING (see TALC)

WINDSHIELD CLEANERS, (see Glass and Windshield Cleaners)

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Heckathorn & Co., Richmond, Calif.
Innis, Speiden & Co., 117 Liberty St., N. Y.
D. H. Litter Co., 242 W. 55th St., N. Y.
Frank Miller & Sons, 2250 W. 58th St., Chicago
Natl. Sawdust Co., 69 N. 6th St., Bklyn.
G. A. Wharry & Co., 95 Broad St., N. Y. 4
Witco Chemical Co., 295 Madison Ave., N. Y.
Wood Flour, Inc., Winchester, N. H.

WOOL GREASE (see Lanolin)

WRAPPING MACHINERY

Allied Steel & Equipt. Co., Chester, N. J.
Chemical & Process Machy. Corp., 146 Grand St., N. Y. 13 (Used)
Consolidated Products Co., 15 Park Row, N. Y. (Used)
J. L. Ferguson Co., Joliet, Ill.
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Johnson Automatic Sealer Co., Battle Creek, Mich.
J. M. Lehmann Co., Lyndhurst, N. J.
Miller Wrapping & Sealing Mach. Co., 16 S. Clinton St., Chicago
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Package Machinery Co., Springfield, Mass.
Pneumatic Scale Corp., North Quincy, Mass.
F. B. Redington Co., 112 S. Sangamon St., Chicago
A. H. Ross & Co., P. O. Box 998, Dayton, O.
Stein Equipment Co., 90 West St., N. Y. (Used)
Stokes & Smith Co., 4915 Summerdale Ave., Phila.
Aurelio Tanzi Engineering Co., 430 Jefferson St., Bklyn.

ZINC NAPHTHENATE

Baker & Collinson, Detroit
Cuprinol Inc., 7 Water St., Boston
General Petroleum Corp. of Calif., 108 W. 2nd St., Los Angeles
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Nuodex Products Co., 312 Division St., Elizabeth, N. J.
G. A. Wharry & Co., 95 Broad St., N. Y. 4

ZINC OXIDE

American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N. Y.
Anaconda Sales Co., E. Chicago, Ind.
J. T. Baker Chem. Co., Phillipsburg, N. J.
Chas. B. Chrystal Co., 53 Park Pl., N. Y
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eagle-Picher Lead Co., 134 N. LaSalle St., Chicago
Harshaw Chem. Co., 1945 E. 97th St., Cleveland 6
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mallinckrodt Chemical Works, St. Louis, Mo.
Merck & Co., Rahway, N. J.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis
New Jersey Zinc Co., 160 Front St., N. Y.
Orbis Products Corp., 215 Pearl St., N. Y.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Rosenthal Bercow Co., 25 E. 26th St., N. Y.
L. A. Salomon & Bro., 216 Pearl St., N. Y.
Western, Zinc Oxide Co., Leadville, Col.
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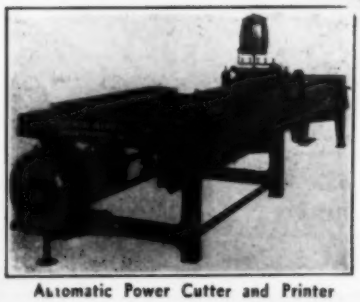
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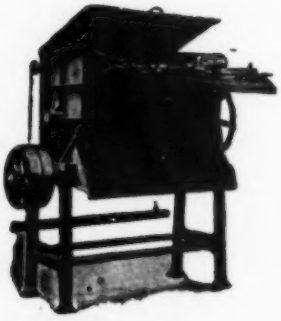




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Soap Sales Statistics

A DECLINE in volume of deliveries and worth of other than liquid soaps was recorded in 1948, when 2,491,380,974 pounds, valued at $578,578,074 were reported shipped by manufacturers, as compared with 2,814,947,000 pounds, valued at $640,586,000, delivered in 1947. Figures on sales and deliveries of soaps are compiled and distributed by the Association of American Soap & Glycerine Producers, Inc., New York. The 1948 totals, although below those of the previous year, were greater than in 1946, when 2,328,377,000 pounds of non-liquid soaps, worth $383,757,000, were reported shipped by AASGP members participating in the census.

Figures on liquid soap sales, which are subject to later revision, because of a possible inaccuracy in reporting, showed 1948 volume to be 3,301,148 gallons, worth $4,138,044, as against 3,109,000 gallons, valued at $3,944,000 in 1947. In 1946, liquid soap volume was 4,011,000 gallons, having a delivered value of $4,724,000.

The aggregate sales worth of deliveries of all types of soaps reported for 1948 by manufacturers participating in the census was $582,716,118, which represents a decline of about nine per cent from the 1947 level.

Although dollar volume of other than liquid soap sales in each of the four quarters of 1947 was at its highest level in the history of the statistics, two of the 1948 quarters had greater dollar volume than the corresponding periods of the previous year. The largest discrepancy came in the final period of 1948, a quarter which was the smallest for the year from the standpoint of dollar volume, while the fourth quarter of 1947 was the largest for that or any other year.

Soap deliveries and worth reached their highest point for the year in the first quarter of 1948, when 657,911,104 pounds of soap, worth $166,112,248 were shipped. The final quarter of '47, largest for that year, had totals of 797,078,000 pounds of non-liquid soap shipped, worth $189,752,000. Although the volume of soap delivered in the third quarter of 1948 (655,884,000 lbs. worth $149,850,000), was less than in the '47 quarter (696,506,000 pounds), the dollar value was greater than the '47 figure of $144,564,000. A similar situation took place in the second quarters of the two years. Last year, 631,307,896 pounds of soap, worth $144,329,752 were reported delivered, while the second quarter '47 figures were 634,674,816

(*Turn to Page* 238)

SOAP SALES 1939-1948
(in thousands of dollars)

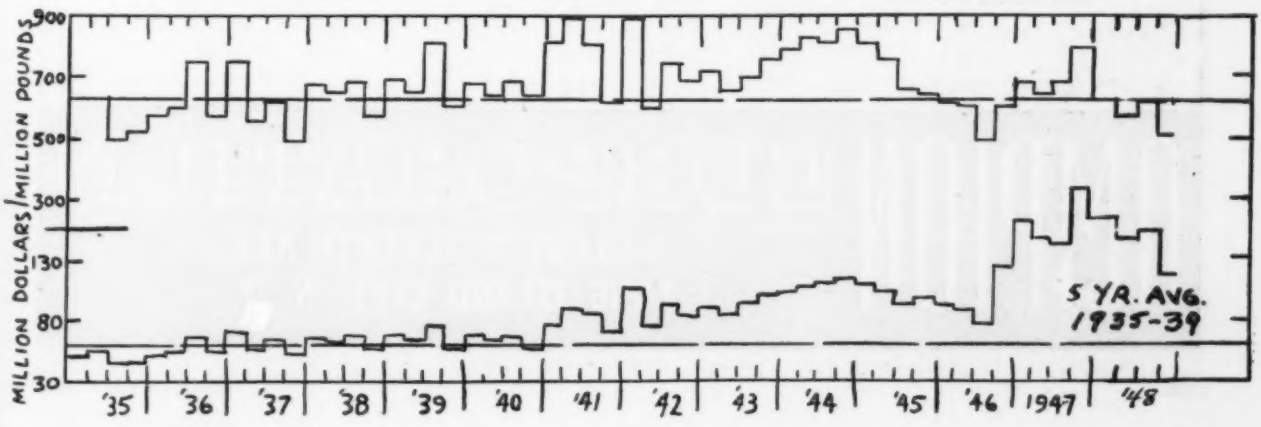
	1939	1940	1941	1942	1943
1st Quarter	68,020	68,829	78,929	106,860	90,945
2nd Quarter	46,346	65,101	90,194	75,879	84,546
3rd Quarter	77,461	66,189	85,906	94,121	94,600
4th Quarter	58,853	58,385	70,057	85,248	101,996
Total	268,680	258,504	325,086	362,108	372,087

	1944	1945	1946	1947	1948
1st Quarter	104,523	110,214	91,807	160,606	164,818
2nd Quarter	108,680	102,533	89,298	145,664	144,527
3rd Quarter	112,312	93,045	76,550	141,507	149,287
4th Quarter	115,596	97,451	124,386	188,641	117,945
Total	441,111	403,243	382,041	636,418	576,577

SALES IN POUNDS (thousands)

	1944	1945	1946	1947	1948
1st Quarter	783,699	805,101	616,357	677,788	653,932
2nd Quarter	822,035	751,636	601,661	643,575	629,979
3rd Quarter	812,677	654,707	494,391	679,360	653,382
4th Quarter	854,526	649,654	602,966	791,307	545,488
Total	3,272,937	2,861,098	2,315,375	2,792,030	2,481,781

Above figures include only comparable totals of reporting members of Assn. American Soap & Glycerine Producers







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1948 Soap Fat and Oil Use

REPORTED consumption of primary animal and vegetable fats and oils for soap in 1948 amounted to 1,948,501,000 pounds, less than the record total of 2,126,636,000 pounds consumed in 1947, but third highest year in the period of 1942-48. Figures on fat and oil consumption are based on those contained in quarterly reports issued by the Bureau of the Census of the Department of Commerce, Washington, D. C.

Consumption of oils and fats for soap was greatest for the year in the first quarter of 1948, when 570,263,000 pounds were reported used. The fourth quarter figure of 489,229,000 pounds was second largest for the year, while the low point was reached in the third quarter. In that period the soap use figure was 416,663,000 pounds, a rather sharp decline from the previous quarter's total of 472,654,000 pounds.

The decline from the 1947 level was noticeable in almost all types of fats and oils, and was particularly marked in the most important soap fats: coconut oil, inedible tallow and fish oil. Coconut oil consumption slipped from 511,331,000 pounds in 1947 to 417,194,000 pounds in 1948; inedible tallow dropped from 1,109,005,000 pounds to 980,651,000 pounds, for '47 and '48, respectively; and fish oil use was reported down from 42,540,000 pounds in '47 to 35,476,000 pounds in '48. Grease was the only major fat not following the trend. Its reported rate of use rose from 416,838,000 pounds in '47 to 470,797,000 pounds in '48. Similarly, '48 babassu oil consumption for soap was reported to have doubled the figure of the previous year. In 1948, 19,413,000 pounds of babassu were listed as being used for soap, as against 9,235,000 pounds in 1947. Soybean oil was another soap fat that nearly doubled the '47 rate in '48. Palm oil dropped below the million pound figure last year, when 956,000 pounds were reported used, as compared with 1,091,000 pounds for 1947. Olive oil foots were used in greater volume (1,934,000 pounds in '48) than in the previous year, when the total was 439,000 pounds. Inedible olive use also rose, going from 324,000 pounds in 1947 to 469,000 pounds in 1948. Lard use last year was also under the 1947 figure, when 5,973,000 pounds were used, as compared with 3,716,000 pounds in 1948.

Of the oils and fats listed in the table accompanying this article only six were reported to have been used in greater volume last year than in the previous year; all others were either reported the same as or less than in 1947.

FACTORY CONSUMPTION OF ANIMAL AND VEGETABLE FATS AND OILS IN THE MANUFACTURE OF SOAP

Source: U. S. Department of Commerce Bureau of the Census
(Quantities in thousands of pounds)

Kind	1943	1944	1945	1946	1947	1948 (*Preliminary*)
Cotton oil	991	586	1,695	522	920	720
Peanut oil	256	564	846	7,347	376	271
Coconut oil ...	142,346	131,558	59,352	184,906	511,331	417,194
Corn oil	833	887	721	299	446	185
Soybean oil ...	15,428	3,258	4,219	3,545	5,375	2,794
Olive, edible...	11	83	18	1	4	0
Olive, inedible..	499	337	302	193	324	469
Olive, foots ...	4,987	2,619	1,684	608	439	1,934
Palm oil	32,621	19,675	24,452	7,417	1,091	956
Palm kernel...	1,840	1,938	29,967	18,939	47	0*
Rapeseed oil...	1	....	....	16	0	0
Linseed oil....	1,697	2,253	915	576	279	339
Perilla oil.....	....	....	....	3	0	0
Castor oil.....	1,091	17,360	1,857	757	9,235	8,018
Sesame oil	65	....	....	1	7	5
Babassu oil ...	25,814	13,006	32,477	35,834	14,582	19,413
Other veg. oils.	675	3,164	2,338	448	664	4,004
Lard	74,039	176,266	82,070	744	5,973	3,716
Stearin	275	211	....	0	0	0
Oleo oil	2,160	3,243	3,685	3,082	40	0
Tallow, edible.	4,652	43,761	32,067	6,895	7,087	1,556
Tallow ined....	884,862	1,005,777	952,335	871,968	1,109,005	980,651
Grease	463,811	523,972	412,105	337,871	416,838	470,797
Neat's foot oil.	68	9	....	41	23	2
Marine oils ...	284	9	2	4	10	1
Fish oils	44,688	50,891	114,344	39,710	42,540	35,476
Total	1,703,994	2,001,611	1,757,451	1,521,727	2,126,636	1,948,501

* Included in all other vegetable.

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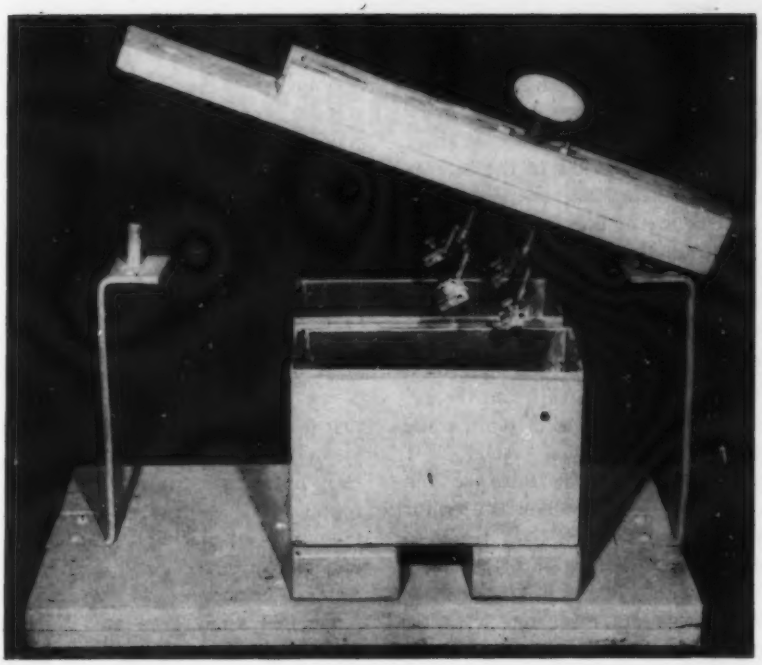
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At left: The testing machine, consisting of a bar, sliding in a suitable support, to which are attached two copper bars. In turn, clamps are fixed to the ends of these copper bars and set at a 45° angle to the bars. In addition, the machine has two detachable copper tanks.

By Adrien DuBois *
Fuld Brothers, Inc.

End-Use Testing Of Scrub Soaps . . .

THE tests discussed are directly concerned with properties of cleansers, particularly "scrub soaps," namely detergency, foaming, "spendability," and wetting. Insofar as tests can approximate actual practice, the results obtained provide the consumer with a more realistic picture of what he may expect from the product.

Several reasons motivated our studies. When this program was started, a survey of the literature revealed little or no reliable information on sanitary chemicals.

A second reason is the increasing tendency to evaluate sanitary chemicals from an end-use standpoint. This is apparent in specifications promulgated by certain Government agencies (1, 2, 3) and also in the literature (4).

The third reason is the neglect on the part of most producers of basic chemicals to provide specific information relative to the use of their chemicals in the sanitary specialty field.

The supplier of basic materials should assume the responsibility of providing the user, formulator and distributor with as complete and accurate information as possible. The supplier should shoulder a greater portion of the development work now left to the individual user. People in our trade have to screen many products which the supplier should have evaluated for our specific purposes before attempting to sell them to us.

Information pertinent to sanitary chemicals is a necessity to any firm bent upon maintaining a high standard of quality. The specific methods mentioned here were evolved in a spirit of necessity. These tests, for the most part, are existing tests adapted to our particular uses. There are others, but these were adopted for their obvious simplicity.

For test purposes we divided scrub soaps into four categories:

1. Neutral, alkali-absorbing
2. Neutral
3. Slightly alkaline
4. Decidedly alkaline

While it is not meant to discriminate against any one of these scrub soaps, and while particular advantages and disadvantages are recognized in each, for purposes of testing, only the first three categories are considered. The motive for this is that alkalies are claimed to be injurious to most surfaces. Whether

* Based on a paper presented before the Natl. Assn. of Insecticide & Disinfectant Mfrs., Baltimore, Md., Dec. 3, 1947, and reprinted in the Mar., 1948, issue of *Soap and Sanitary Chemicals*.

justified or not, there is ample proof that these claims are widely believed (e.g. 6). Neglecting the safety consideration, we may eliminate alkaline cleansers from consideration by simply stating that almost any test will show them to have an apparently equivalent or higher detergency.

Our basic test for classifying these soaps is very simple. The addition of a few drops of phenolphthalein to the product immediately indicates whether it is neutral or alkaline. If it is neutral, the addition of alkalies differentiates whether it is alkali-absorbing or merely neutral. If it is alkaline, the addition of a few drops of thymolphthalein immediately differentiates whether it is only very mildly alkaline when the indicator remains colorless, or whether the product is strongly alkaline when the indicator turns blue. This last category, as stated earlier, is not considered for further tests.

After determining the category to which the scrub soap belongs, its detergency is studied. The only published method found to be simple and to yield representative results, is that of Gilcreas and O'Brien (7). A modified version of their apparatus fulfills all the needs of the sanitary chemicals industry. The method may be briefly described as follows:

Machine: The machine consists of a bar, sliding in a suitable support, to which are attached two copper bars. In turn, clamps are fixed to the end of these copper bars and set at a 45° angle to the bars (copper). Further the machine has two separate, detachable copper tanks.

Soil: The following ingredients are mixed together in the molten condition:

50 g. peanut butter
25 g. butter
25 g. lard
20 g. mineral oil
20 g. xylol
Color as desired

It is best to keep this soil in the refrigerator, although it is not necessary. The contents should be mixed well before using.

Ordinary microscopic slides are cleaned in soap and water. These slides previously should have been scratched at a distance of 16 mm. along the long axis, with a short line about the middle of the narrow axis. This step can be done more conveniently by immersing the slides in hydrofluoric acid to a depth of 16 mm.

The slides are dipped up to the 16 mm. mark in the soil at about 27-30° C. They are then hung on a line, by means of a clip, and the excess of soil allowed to drip off, while the soil is also drying. About ¾-1 hour is required. The slides are then ready for use. They may be kept for any amount of time until ready to use.

Test: The dry, soiled slides are inserted in the clamps, a filter paper (folded in two), being also inserted to prevent the slides from slipping out of the clip during the period of test. The two tanks are then filled to within 1-1½ inch from the top with the solution of the product to be investigated. These solutions are then brought to a temperature of 40° C. The slides are then lowered into the tanks, and the sliding bar is moved back and forth through 120 complete cycles (240 strokes), during the course of 1½-2 minutes. After that, the slides are removed from the clamps and rinsed with running cold water.

Evaluation of results: The slides are observed visually to determine the extent of the removal of soil. For more exact work, colorimetric or other procedures should be used to determine the percentage removal of soil (percentage detergency).

Although the test is described as using glass slides, it is not restricted to this type of surface and can be used with any other surface, such as linoleum, wood, etc. the particular soil mentioned here is only one of many which have been found to be useful, particularly for glass surfaces. For other surfaces, other soils are preferable.

The use of a detergency test implies that detergency is suitably defined. We accept the ASTM definition (8); namely, "Effectiveness of cleaning," but we further qualify it by including the ultimate use. This is made necessary in that a detergent good for one use may not be as good for another (5).

The next property of cleansers to be considered is foam. It is well known that the importance of foam is greatly exaggerated, at least in the public opinion. Since the ultimate user who determines the acceptance of a product asks for foam, it is not only desirable but necessary that it be evaluated. There are many methods available to determine foam (9). The simplest test also has been found to be the most satisfactory. It consists of placing 1 gram of the material under test and 25 ml. tap water (Baltimore hardness 50 p.p.m.) in a tall, graduated 180 ml. cylinder, closed with a glass stopper, and shaking horizontally back and forth, for 1½ minutes. With the stopper on, the cylinder is left to stand, and the total volume in the cylinder (foam and liquid) is read immediately, and after 2.5, 5, and 15 minutes. These readings provide data on the initial foam as well as on its stability and character. The results obtained by this method are very reproducible when the conditions of the test are the same. It has given such good results that we have used it extensively to evaluate and eliminate products, which on the basis of other tests, were claimed to be excellent.

Another cleanser property is one for which in the absence of an available term, we have coined the term "spendability." This is meant to be a measure of how long a given amount of the cleanser will last under practical use; i.e., how much area it will cleanse before it is spent. Several factors participate in nullifying the effectiveness of the cleanser; e.g., neutralization by dirt, grease, etc., precipitation as alkaline earth soaps, absorption on the surface being cleaned, etc. Any test which removes the soap from solution is indicative of these combined conditions. The test commonly used (10) to determine the hardness of water was judged to be adequate. It consists in gradually adding to 5 ml. of a 0.1

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Identification of Cleaner Ingredients

By A. Treffler*

THE analysis of cleaners containing soaps, synthetic detergents, alkalies and water softeners is often beset with difficulties. Each laboratory has its own bag of tricks helpful in making rapid qualitative estimates. With a little refinement and development some of these tricks have emerged as full-fledged quantitative methods to become accepted as standards. Others have inherent weaknesses, are of limited value, and demand considerable experience for proper interpretation.

Among the preliminary qualitative tests that might be run on an alkali cleaner is a microscopic examination. The characteristic crystalline forms of trisodium phosphate, sodium sesquicarbonate, and other alkalies are seldom misleading. The difficult determination of boric acid and borax, the identification of orthophosphates from pyro-or metaphosphates, of alkali soaps and synthetic detergents and other ingredients in such mixtures can be simplified by new procedures.

The presence of soap in a sample is indicated when the sample, shaken with a little water, forms suds. By acidifying the solution with a little hydrochloric, sulfuric or acetic acid, the presence of either soap or synthetic detergent may be indicated. The alkali soaps split off fatty acids in the presence of an acid and the lather disappears. Many common forms of synthetic detergents do not decompose in acids and their lather is still apparent. Furthermore, the presence of carbonates and silicates may be indicated when the acid is added to the sample in the water method, the evolution of carbon dioxide pointing out the presence of carbonate and the appearance of gelatinous silicic acid indicating silicates. If a portion of the aqueous solution is acidified with nitric acid and heated for five minutes, cooled and separated by filtration from any fatty and silicic acid, phosphates can be detected by precipitation with ammonium molybdate solution.

The presence of boric acid can be affirmed by the usual flame test, using platinum wire, sulphuric acid and glycerin. In alkali mixtures with varying particle sizes, the use of a set of sieves with meshes from 20 to 100 often allows a mechanical separation of the component alkalies and their approximate percentage estimation.

Identifying Phosphates

A colorimetric distinction of pyrophosphates and metaphosphates from orthophosphates and other alkalies is effected by the use of tannic acid. The tannic acid reagent is prepared by dissolving five per cent tannic acid (U.S.P. or C.P.) in distilled water. A heavy, absorbent filter paper is saturated with the reagent, and laid upon a waxed paper. The different alkali particles are placed on the saturated paper with tweezers or spread over the paper by means of a sieve. Each alkali reacts with the tannic acid reagent to form a different shade of color ranging from light yellow to deep brown. Pyro- and metaphosphates, as distinct from orthophosphates, produce a typical rose tint, not developed by any other alkali. The same observation can be made in neutral liquid soaps, containing such phosphates by adding a little five per cent tannic acid solution. If the color development on the filter paper is not clear enough, a few drops more of the reagent will help to bring out the color. The color of the reaction product is more distinct if the tannic acid solution is pure and colorless. Commercial, dark colored tannic acid cannot be used for making up this reagent. Tannic acid test paper may be prepared by saturating heavy grade filter paper with the reagent and allowing it to dry. The paper then is simply moistened as the test is made.

These colorimetric indications suggest the possible use of the electrophotometer for making quantitative determinations. The different color reactions of the alkalies with tannic acid are shown in the table.

A Quantitative Procedure

After such preliminary tests have proved the presence of several alkalies or alkali-soap mixtures, a quantitative analysis is often desired. The first step is the determination

Alkalies	*5% tannic acid solution reacted with alkalies in powder form*	*in solutions*
Caustic Soda	brown	dark brown
Caustic Potash	brown	mahogany brown
Ortho and Metasilicate	brown	
Trisodiumphosphate	yellow-brown	
Disodiumphosphate	no reaction	
Phosphoric Acid	no reaction	
Tetrasodium pyrophosphate	rose	faint rose
Tetrapotassium pyrophosphate	rose	rose
Tripolyphosphate	rose	rose
Quadrafos	faint rose	deep rose
Metaphosphate	faint rose	deep rose
Sodium carbonate	yellow-brown	
Sodium bicarbonate	colorless	
Borax and boric acid		

* Based on an article appearing in the June, 1948 issue of *Soap and Sanitary Chemicals.*

of the total moisture. The usual procedure consists in drying to constant weight a five to 10 gram sample at 105° C. in a drying oven. The loss in weight is the amount of free moisture providing there are no silicates or borates present. Soaps and synthetic detergents are extracted with concentrated methyl or ethyl alcohol, and the alcohol-insoluble alkalies and salts are removed by filtration and dried to constant weight. The difference in weight is the anhydrous soap, the synthetic detergent (active ingredient) and the neutral fats, if present. Pine oil usually evaporates completely if heated long enough.

If silicates or borates are found in the alkalies, a second heating in a crucible oven over an open flame will be necessary for the complete volatilization of the moisture. The additional loss of weight must be added to the first results of the drying oven moisture determination. Moisture determinations on alkali powders such as trisodium phosphate, borax and sesquicarbonate are as a rule within very close limits of the theoretical percentage, and in burn off tests give quick quantitative values. In the case of metasilicates and other alkalies, the results vary more from the theoretical value.

Of equal importance and help is the colorimetric or electrometric determination of the pH of 0.1 per cent solutions of the cleaner. Since the pH of the various alkalies is a fixed value for a given concentration and temperature, its determination on a single alkali saves the bother of a titration with standard acid or other identification.

An additional test and offering more accurate quantitative information on the alkalies present, is the well-known double titration of carbonate-bicarbonate mixtures with the use of the indicators phenolphthalein and methyl orange. Sodium carbonate is converted to the bicarbonate when titrated with a standard solution of acid to an end-point as indicated by phenolphthalein. The milliliters of acid used multiplied by two represents the total alkalinity, in terms of Na_2O, due to the carbonate. If the titration with the acid is continued to the end-point as indicated by methyl orange indicator color change, all of the bicarbonate is neutralized. If this second titration is greater than the first one, some sodium bicarbonate was present in the original sample and its amount can be calculated from this excess. The Na_2O content of borax and metasilicate, if not in mixtures, can be determined also by titration with standard acids and methyl orange. If borax is present in combination with sodium carbonate and bicarbonate, it can be calculated from its boric acid equivalent, found by back-titrating the solution from the carbonate titration with glycerine and phenolphthalein indicator after boiling it free of carbon dioxide. If silica and phosphoric acid are present in the solution, another method of determining borax must be used.

Borax and Phosphates

The total amount of Na_2O can be determined also by treating the alkalies with acid and converting them in a crucible over an open flame into sodium chloride or better into sodium sulfate and volatilizing the phosphoric acid and oxides of boron and silicon. The phosphoric acid is converted at red heat to metaphosphoric acid and as such is sublimed. The first-mentioned oxide is removed by moistening the salt several times with glycerine and burning it until the green color in the flame disappears. The silica may be removed by placing the residue in a platinum crucible, adding a little hydrofluoric acid and volatilizing away the resulting silicon tetrafluoride at lower temperatures. The silica also can be filtered from the dissolved molten residue should there be no platinum ware available. The writer has made several borax and phosphoric acid determinations by these methods and has found them worth discussion.

A sample of alkali containing not more than 0.1 gm. of borax in the form of B_2O_3 and any amount of ortho-, pyro-, or metaphosphate, is weighed out in a small flat silica or porcelain dish, heated over an open flame until completely anhydrous, and weighed. The somewhat cooled sample is moistened with concentrated sulfuric acid or hydrochloric acid and heated over a Bunsen flame until all excess of acid is volatilized. Orthophosphoric acid gradually changes thereby to pyrophosphoric and finally to metaphosphoric acid and volatilizes. Moistening the molten mass with acid and heating is repeated until a constant weight is obtained. This treatment removes the phosphates.

The next step is to remove the borax. The sample is moistened with glycerine and burned off repeatedly until there is no longer any evidence of green color in the flame. The glycerine is applied best with a stirring rod to the wall of the somewhat cooled crucible. Any carbon residue in the crucible is destroyed by adding a few drops of concentrated nitric acid and heating until a constant weight is obtained. If the weight of the chloride or sulfate residue is constant, the amount of phosphoric acid and B_2O_3 can be calculated from the three weights obtained from the procedure just described. From the B_2O_3 content, the weight of the anhydrous borax can be calculated. This weight subtracted from the first weight establishes the weight of the anhydrous phosphate. From the weight of the sodium chloride or sulfate residue and the anhydrous borax the amount of Na_2O combined with P_2O_5 can be calculated by difference, and from this result the P_2O_5 is taken by difference, if the ammonium phosphomolybdate method should not be preferred.

A Test for Carbonate

Sodium carbonate, or soda ash, the lowest priced alkali, is used in combination with sodium bicarbonate to a great extent in cleaners, and its quick estimation by a simple test is of importance. The evolution of carbon dioxide gas and its estimation by loss of weight is a satisfactory method. The apparatus used is a Schroetter's or Mohr's alkalimeter. The material to be analyzed is placed

in the flask of the apparatus and dilute (1:1) hydrochloric acid is admitted from the separatory funnel portion. The gas passes out through the condenser where the moisture is either refluxed or absorbed. The apparatus is placed on the pan of an analytical balance and weighed before and after the gas is evolved.

A high percentage of sodium carbonate, in distinction from sodium bicarbonate, can be detected by moistening about one gram of the anhydrous powder on the palm of the hand with a few drops of water and observing the resulting heat of reaction. Anhydrous tetrasodium pyrophosphate and anhydrous tripolyphosphate, however, give the same reaction.

Evaluating Detergency

The complete analysis of soap powders and alkali mixtures containing a number of ingredients is often too time-consuming and is frequently unnecessary when an evaluation of detergency is all that is needed. Many users of such products are completely satisfied knowing how much more or less of the newly appraised product is necessary for a certain application in comparison with some comparative product. This can often be determined by running a suds stability test in comparison with the product of known performance. For such estimations, the known and unknown products are made up in one per cent solutions, and 58.3 mls. of water of a certain degree of hardness, and in a four ounce bottle, are titrated with the solution until the suds in the bottle have, upon shaking, a stability of five minutes. The milliliters of titrant needed to obtain this end point can be regarded as a measure of the detergent value of the product at the temperature of the test.

The Airotitrator

A quicker and more accurate procedure is the use of the Airotitrator, a 2½ x 5¼ inch glass cylinder. This is filled with 50 mls. of 10 grain (U.S.) hard water through which filtered air from an air compressor is bubbled at a regulated speed. The one per cent solution of the cleaner to be tested is slowly run in from a burette until the hardness of the water is overcome and the suds on the surface rise to a certain point on the cylinder about 2½ inches above the liquid level and stay there for at least one minute. The milliliters of titrant are again a measure of detergency. When testing alkali mixtures that contain no soap, a sudsing factor should be added. The sudsing factor is the number of milliliters of a standard soap solution necessary to bring fifty mls. of pure distilled water, at the same temperature, to the sudsing point. This method gives satisfactory results on cleaners, compounded with alkalies and alkali soaps, but cannot be used on synthetic detergents without modification.

Emulsifying Power

Fatty acids have a high affinity for mineral oils, metallic soaps, dyestuffs, carbon black and like soils. The soaps of these fatty acids are excellent emulsifying agents for such impurities. This is not the case with the types of synthetic detergents having no fatty acid radicals and having a short hydrophobic group and a powerful hydrophilic group in their molecular structures. Even coconut oil soap, which has a comparatively short hydrophobic group, does not form emulsions of good stability with mineral oil and water.

Molecular adhesion is found most developed in the long chain hydrocarbon groups, sixteen carbon atoms and above, and changes in the physical appearance of liquid hydrocarbons, such as kerosene, to solids, such as paraffin wax, seem to be related to the magnetic field formed by the uniform line-up of electrons rotating in the same direction. The strength of this magnetic field is now known to increase with increasing line-up of the electrons. This molecular adhesion is said to be the basic principle for the formation of oil-in-water or water-in-oil emulsions, the formation of micelles and crystallites, the compatibility of synthetic detergents with alkali soaps, and their ability to emulsify metallic soaps and mineral oil. A cleaner for oil and grease therefore should have an alkali soap or a synthetic detergent with a long hydrocarbon group or at least a long hydrophobic group.

Evaluation of Synthetics

The ability of a synthetic detergent to emulsify oil and grease soil can be established by the airotitration test. Fifty mls. of ten grain (U.S.) hard water in the airotitrator, are titrated to permanent lather with a one per cent aqueous solution of potassium oleate. The synthetic detergent or soap solution to be tested is made up in a one per cent alcoholic solution. The airotitrator, is once more filled with 50 mls. of 10 grain hard water and only half of the one per cent potassium oleate necessary for producing a permanent lather is added. At this point it must be assumed that the calcium, magnesium and iron soaps formed are still in the pure state, i.e., as simple molecules unassociated in complexes with peptizing potassium oleate. Any soap with a long hydrocarbon or hydrophobic chain or group and a high affinity for oleic acid will enclose the metallic soaps easily in micelles, solubilize them, and once more produce a permanent lather.

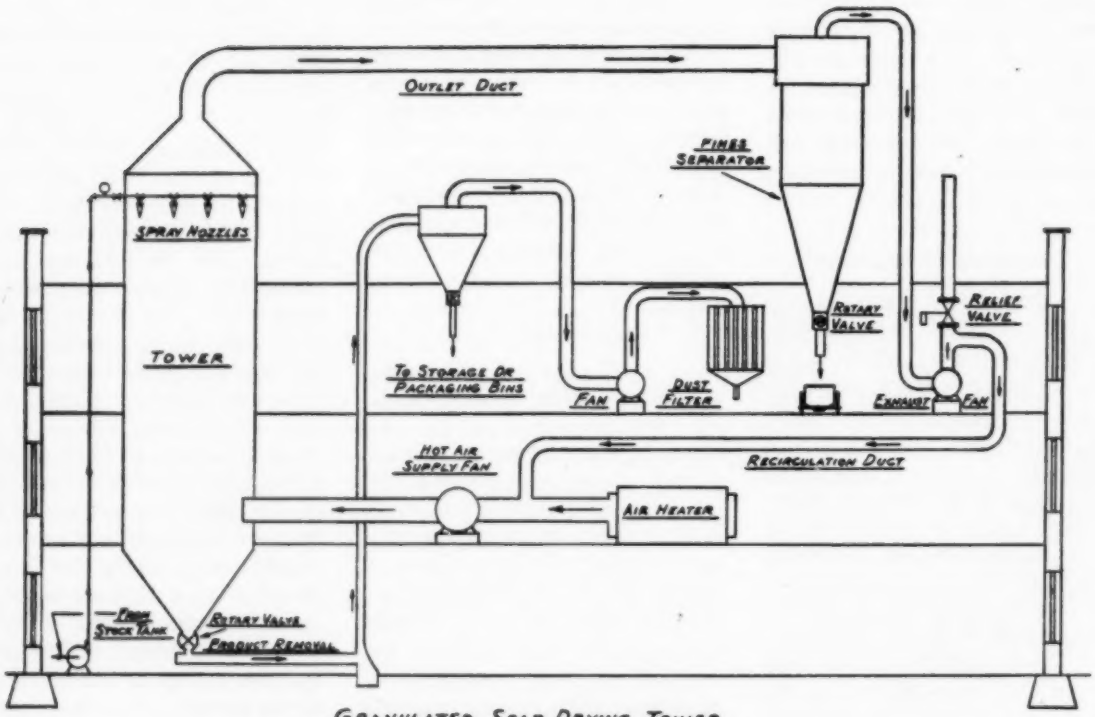
By titrating some 10 or 20 synthetic detergents commonly used on the market and comparing their titration in each case with the structural formula, very interesting observations can be made. If, for example, 7.8 mls. of one per cent potassium oleate produces permanent lather and if 3.9 mls. of it have been added to the hard water to be used for a titration, it will be found that with certain synthetic detergents, only one ml., and with others more than 20 mls., of a one per cent solution are necessary to re-solubilize the metallic soaps and form a permanent lather. With this method, not only one per cent alcohol-extracted soap solutions, but compounded detergent mixtures diluted to a one per cent solution also can be evaluated.

There are synthetic detergents on the market which replace four

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Toxic Actions of Insecticides

By ARNOLD J. LEHMAN, M.D.*
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THIS review is an attempt to summarize the more important toxicological features of the commonly used insecticides. It should be stated at the outset that thousands of formulations involving probably not more than 25 insecticides are in existence. The solvents, diluents, and wetting agents which compose these formulations have some bearing on the toxic phenomena exhibited by the insecticides. In a good many instances these "inert ingredients" may be solely responsible for the injuries and it is not always possible to state definitely which of the ingredients should be incriminated. In the interest of accuracy, and to eliminate the side effects of the "inert ingredients," the toxic manifestations as given below for experimental animals were observed following the oral administration of poisons of high purity, either as such or in an innocuous solvent. It is impossible to state the fatal dose in humans for many of these insecticides and such doses can only be estimated from animal experimentation.

INSECTICIDES OF VEGETABLE ORIGIN

DERRIS: The insecticidal quality of this plant is due to a number of constituents but principally rotenone. *Local effects*:—Rotenone, when applied to the skin, produces only an occasional mild irritation which persists about 24 hours after removal of the causative agent. Irritation of the conjunctiva may result on contact but no permanent damage has been reported. Rotenone is not absorbed by the skin. *Symptoms*:—The most pronounced effect of rotenone is upon respiration which is first stimulated and then depressed. If a sublethal dose has been ingested, stupor may be evident, and frequent convulsive seizures may be observed. Death is invariably the result of respiratory failure since the heart and blood pressure may be maintained for some time after cessation of respiration. The cardiovascular system is not seriously affected even after massive doses of derris or its constituents. *Fatal dose*:—This is probably quite large, although guinea pigs do not survive after 60 mg./kg. dose administered orally. Dogs have tolerated as much as 2.0 gm./kg. It has been shown experimentally that finely powdered rotenone is about six times as poisonous as coarse crystals. Further, the intravenous toxicity of rotenone is 3,000 to 8,000 times the oral toxicity. When it is called to mind that the inhalation of finely divided substances produces effects of about the same order as those observed following intravenous administration, it can be seen that the inhalation of finely powdered rotenone or derris can become a very serious matter. *Fatal period*:—The onset of symptoms of poisoning may appear within a few minutes to a few hours, depending on the dose. Death can occur as early as 4 hours after ingestion of the poison or may be delayed for as long as 10 days with the crucial period falling between the first and second day. *Pathology*:—Pathological changes are almost always the result of chronic ingestion. A definite necrosis of cells in the central and midlobular areas of the liver has been a constant observation in chronically poisoned animals. Concentrations of derris root in the neighborhood of 75 parts per million in the diet have been reported as having produced these changes. This represents about 3.75 parts per million of rotenone. It has been estimated that the upper limit of tolerance for man is about 5 parts per million of derris in a diet consisting wholly of derris-contaminated food. *Treatment*:—Since rotenone acts as a gastric irritant and also stimulates the emetic center after absorption, these two factors operate to remove the swallowed material before serious poisoning occurs. No specific antidotes are known and treatment must be symptomatic.

PYRETHRUM: The active constituents are called pyrethrins. The pure substances are rare and the highest concentrations which may be encountered in commerce are 20% pyrethrum extracts in soy bean or sesame oil. *Local effects*:—the pyrethrins are slightly sternutatory and possess an acrid bitter taste which is followed by a numbness of the tongue and lips. Highly concentrated extracts have been applied to human skin without signs or symptoms of irritation. *Symptoms*:—The pyrethrins produce a hyperexcitability. Incoordination, tremors, and muscular paralysis have been noted with death due to respiratory paralysis. *Fatal dose and period*:—The single acute oral dose is quite large in animals, being of the order of 1.5 gm./kg. Poisoned animals may die within 10 hours or may live 3 to 5 days or longer before succumbing. *Pathology*:—The toxicity of the pyrethrins appears to be so slight in warm-blooded animals that no tissue damage has been reported as caused by these agents. Allergic reactions and contact dermatitis have been reported in humans. *Treatment*:—Since household preparations contain the equivalent of about 108 mg. of pyrethrins per 100 cc. of kerosene, any toxic effects following the inadvertent swallowing of this solution would be due to the ingested kerosene. Gastric lavage is about all that can be recommended.

NICOTINE: This is one of the very few volatile, liquid alkaloids. It unites with acid to form water-soluble salts, the form in which it appears on the market. *Local effects*:—Tobacco and nicotine are strong local irritants. Nicotine penetrates the skin readily but its salts do not; hence strong solutions of the latter may be spilled on the skin without serious consequences. *Symptoms*:—Nicotine is one of the most rapid and deadly poisons known to man. The initial hot, burning sensation in the mouth, esophagus and stomach is followed by salivation, nausea and vomiting. Convulsion appears later which may be clonic and tonic in nature. Death is due to a curare-like paralysis of the respiratory muscles. *Fatal dose and period*:—About 60 mg. as a single dose appears to be the smallest quantity which can be fatal to man. It has been esti-

* Dr. Lehman presented this summary of the toxicological properties of the common insecticide materials in a paper before the New York Academy of Medicine, Jan., 1949. It was released as an appendix to Service Letter No. 568 by the National Pest Control Association, Mar. 11, 1949.—THE EDITOR.

mated that a 70-kilo individual can ingest a total of 280 mg. of nicotine daily in the form of tobacco without harm. The effects of chronic poisoning are those of inanition. *Treatment*:—There is no specific anitdote for nicotine. Stomach lavage with tannic acid (strong tea or coffee), administration of charcoal or permanganate are aids in removing and destroying the poison. Artificial respiration is one of the most important life-saving measures and should be instituted as soon as respiratory collapse is apparent.

SYNTHETIC INSECTICIDES

LETHANES: These constitute a group of insecticides based on aliphatic thiocyanates, four of which have attained commercial importance. *Local effects*:—The local effects of solutions of the lethanes are due primarily to the vehicle (refined kerosene) in which they are dissolved. The concentrations of 2 or 3 per cent of active ingredient as ordinarily used are not high enough to cause skin irritation. *Symptoms*:—The symptoms are a deep depression, cyanosis, dyspnea, and tonic convulsions. Death is due to respiratory failure. *Fatal dose*:—Since the highest concentrations of the individual lethanes which may be encountered are 50% solutions in kerosene, the additive effect of this solvent must be taken into account. A rough estimate would be 0.4 to 2 cc./kg. of the concentrates, with lethane-384 represented by the lower figure and thanite by the higher figure. Lethane-60 and lethane-384 special fall between these two extremes. *Fatal period*:—Fatal doses of the thiocyanates produce a rapid collapse and death within a few minutes. Occasionally, toxic effects may be delayed for as long as 12 hours. *Pathology*:—No characteristic changes in tissues have been noted. The severe circulatory disturbances which the thiocyanates produce cause a marked hyperemia of the internal organs, hemorrhages, and edema. Degenerative changes in the brain, liver and kidney have been reported in chronically poisoned animals. *Treatment*:—There is no specific treatment for poisoning by the thiocyanates. Removal of the poison from the gastrointestinal tract by the usual methods and treatment of symptoms as they arise are advised. Poisoning by these agents is an "all or none" phenomenon. If an individual survives the acute effects, recovery is practically assured.

DDT: *Local action*:—DDT is quite innocuous when applied to the skin. Solutions of DDT, however, are absorbed and multiple exposures do constitute a hazard. It has been estimated that daily exposures to solutions representing 9 grams of DDT, by spilling on the skin or clothing, may represent a quantity dangerous to man. *Symptoms*:—The symptoms of poisoning in mammals usually begin as tremors of the muscles of the head and neck. The tremors progress caudally and increase in intensity with time so that eventually purposeful movements are difficult or cannot be accomplished. Frequent episodes of tonic and clonic convulsive seizures manifest themselves. These convulsive seizures occur with increasing frequency, becoming almost continuous. A stage of depression is eventually reached, terminating in respiratory failure and death. An uncomplicated case of poisoning in man has not been reported, but from the meager information available it appears that giddiness, nervous tension and involuntary muscular tremors are some of the symptoms. *Fatal period*:—The onset of poisoning symptoms after oral ingestion of DDT may be delayed for several hours but can appear in one hour. The convulsive seizures are manifest within 30 or 40 minutes after the onset of tremors and death may occur 2 to 24 hours after the onset of the initial tremors. *Fatal dose*:—The fatal dose of DDT for man is not known. One report of a fatal case of poisoning estimates the dose as 500 mg./kg., representing about an ounce total dose of the solid material. *Pathology*: — The gross pathologic changes induced by DDT are not significant except in chronically poisoned animals. The outstanding lesions are found in the liver. Lighter grades of poisoning reveal a moderate degree of centrolobular hypertrophy of the hepatic cells, progressing to a combination of central necrosis and reparative hypertrophy in some cases of more severe intoxication. Some cerebellar changes of a degenerative nature have been observed in dogs. There is also a tendency to hepatic cell tumor formation in animals on long-term chronic ingestion of DDT. *Treatment*:—Treatment of acute poisoning should be directed toward removal of the DDT from the stomach and intestinal tract. Oil cathartics must be avoided. The chemical stability of DDT precludes the use of chemical antidotes. The neurological manifestations may be treated with an anticonvulsant drug, the best physiological antidote being phenobarbital. Enough should be given to control the tremors and convulsions. Experiments indicate that this dose is well below the anesthetic dose. DDT produces an excess excitability of the cardiac muscle so that any coincident sympathetic stimulation which accompanies the emotional disturbance induced by DDT convulsions can result in ventricular fibrillation. This can also be induced by a challenge dose of epinephrine which is, therefore, contra-indicated in the treatment regimen.

METHOXYCHLOR: *Local effect*:—Methoxychlor is only slightly irritating when applied to the skin. Solutions of the compound are absorbed by the skin, and multiple exposure to oil solutions representing about 36 grams daily can be dangerous to man. *Symptoms*:—Symptoms from a single acute dose of methoxychlor may not appear, since the quantities which must be ingested to produce toxic effects are so large it is rather doubtful whether an individual would swallow enough to cause poisoning. When symptoms do appear they are largely limited to a depression, although tremors have been noted in chronically poisoned animals. *Fatal dose and period*:—The fatal dose for man is estimated to be in the neighborhood of 450 grams (1 pound) if ingested at one time. Onset of symptoms begins in about 24 hours but may not be evident for 72 hours. Death when it does occur is between 2 and 4 days after ingestion of the poison. *Pathology*:—Pathologic changes are seen only after subacute feedings of the poison at high levels in the diet (5000 parts per million) and are predominantly centered in the kidney. The damage consists of clomerular and tubular atrophy scattered diffusely throughout the organ. *Treatment*:—Probably little harm will be done if the material is swallowed. Removal of the insecticide from the stomach and intestinal tract is about all that should be necessary. Oil cathartics should be avoided.

TDE: (DDD, Rhothane) *Local effect*:—It is slightly irritating to the skin. Multiple exposures to oil solutions and the daily contact with quantities of about 6 grams total may be considered as the upper limit of tolerance for man. *Symptoms*:—The symptoms of TDE poisoning fall into the category of lethargy. Careful observations have not revealed convulsions, although these can be elicited by administering the poison intravenously. *Fatal dose and period*:—The fatal dose of TDE is about 10 times larger than that of DDT, which would place the total quantity at about 8-10 ounces of the solid material. The first symptoms of poisoning occur within 24 hours, with death within 48-96 hours ater ingestion. Animals which survive after the 96th hour usually recover completely. *Pathology*: — TDE shows a predilection for the adrenal cortex, which may be briefly described as a marked chronic atrophy of the cortex. As with all chlorinated hydrocarbons, the liver shows damage similar to that described under DDT. *Treatment*:—This is the same as that given under methoxychlor.

CHLORDANE: This insecticide is composed of several isomers and the true evaluation of its toxicology can only be made after each of the isomers has been subjected to study. The comments below deal with the commercial products. *Local effects*:—Chlordane is moderately irritating to the skin. This property is lost on dilution, as in insecticide formulations, and the warning sign of danger is lost. The insecticide is absorbed through the skin, and it has been estimated that daily exposure to about 2.4 grams in solution may be dangerous to man. *Symptoms*:—The early signs are those of irritability of the central nervous system. This leads eventually into convulsions, which are followed by a period of depression. The process may be repeated several times, and death follows a terminal deep depression with or without a final convulsive seizure. *Fatal dose*:—From the acute standpoint chlordane appears to be only about one-half as poisonous as DDT, but the side effects are such that in the final analysis the toxicity is about 5 times that of DDT. Therefore, the fatal dose lies somewhere between 6 and 60 grams. *Fatal period*:—The onset of symptoms is within 45 minutes after ingestion. Deaths occur occasionally within 24 hours, are frequent between the 48th and 96th hour, and if survival extends to the 6th day, recovery is the rule. *Pathology*:—Inani-

tion is a predominant observation in chronic poisoning, indicating a considerable disturbance in normal physiology. Of the vital organs, the liver bears the brunt of the poisoning, and the usual degenerative changes produced by chlorinated hydrocarbons are a constant finding. *Treatment*:—The usual measures should be adopted for removing the poison from the stomach and intestinal tract. Any additional treatment must be symptomatic as no specific antidotes are known.

BENZENE HEXACHLORIDE:—The commercial product contains at least 4 isomers, each contributing to or modifying the effects of one on the other when administered in combination. *Local effects*:—The technical grades of benzene hexachloride (containing the 4 isomers, alpha, beta, gamma, and delta in varying proportions) are skin irritants, the damage being almost in direct proportion to the amount of gamma isomer these mixtures contain. Toxic effects can be elicited by dermal application, and again the gamma isomer plays the leading role. The toxicity of this isomer increases 200 fold on repeated exposure, and dangerous quantities to man are probably of the order of a little more than 1 gram if repeated daily. *Symptoms*:—Animals which are poisoned with technical benzene hexachloride exhibit convulsions in some instances. This is followed by a hyperirritability to any outside stimulus (sudden noise, tapping the cage, etc.) and finally depression. When the symptoms of poisoning by the individual isomers are considered, the following facts are known. Alpha induces a state of hyperexcitability which may develop into convulsions by any sudden stimulus. Beta does not produce symptoms of poisoning from a single acute dose. If administered chronically, only tremors predominate at first but finally depression occurs and not unlike that observed with phenobarbital. Gamma is a central nervous stimulant, the principal symptom being convulsions. Delta acts as a depressant to the central nervous system. *Fatal quantity*:—Because the delta isomer is almost purely depressant in its effects, this component of the technical mixture has a tendency to antidote the stimulant actions of the other three components. This gives a rather wide range of dosage which may be fatal. Probably the best estimate for man would be 400 mg./kg. or about one ounce of technical benzene hexachloride containing 15 per cent gamma. Of the four isomers, Gamma may be met with frequently. The fatal dose is about one-half that of DDT and for man the fatal dose could be about 15 grams (one-half ounce) of the pure material. *Fatal period*:—The symptoms of technical benzene hexacloride poisoning begin within 1-2 hours after oral administration. The course of the fatal poisoning is not very rapid and death may be delayed for as long as 5 days. Gamma isomer is much more rapid in its action, the onset of symptoms developing within 30 minutes and death occurring within 24 hours, and rarely delayed beyond this time period. Since 50-70 per cent of the technical benzene hexachloride is composed of the alpha isomer, it may be worthwhile mentioning that symptoms of poisoning of this isomer begin in about 24 to 48 hours and deaths may be delayed for 4 or more days. *Pathology*:—In a general way, benzene hexachloride isomers gave a pathological picture resembling that caused by DDT. Liver damage is the characteristic finding. Alpha and gamma isomer cause a moderate degree of hyaline granular degeneration of the renal convoluted tubular epithelium. *Treatment*:—There are no specific antidotes for benzene hexachloride, and treatment should follow the general plans given under DDT.

TOXAPHENE: This is a chlorinated derivative of camphene. *Local action*:—Toxaphene is moderately irritating to the skin. Absorption through the skin has been observed experimentally and the quantity which may be dangerous to man by daily contact has been estimated at 2.4 grams. *Symptoms*:—Toxaphene, being a derivative of a camphor-like substance, elicits responses quite similar to camphor. Epileptiform convulsions are a prominent feature. *Fatal dose*:—Toxaphene is about 4 times as toxic as DDT. The fatal dose for man may be estimated to be about 2-7 grams or a maximum of one-fourth ounce. *Fatal period*:—In poisoned animals toxic symptoms appear within an hour, with death following usually within 4 hours, or may be delayed for 24 hours. *Pathology*:—The major pathologic damage is located in the liver and does not differ much from the changes given under DDT. *Treatment*:—Evacuation of the stomach and bowels is indicated. Experimentally, the convulsions can be controlled by phenobarbital. Bromides are useful in controlling camphor convulsions and this probably also applies to toxaphene.

ORGANIC PHOSPHATES: There are two important members in this group, namely, tetraethyl pyrophosphate and parathion. The toxic manifestations of these compounds are similar, but the mechanism of their poisonous action is considerably different from that described above for the other insecticides. *Local action*:—The organic phosphates are only slightly irritating to the skin. Both compounds penetrate the skin readily in all types of formulations. As little as 0.3 grams daily exposure has been estimated as dangerous to man.

Symptoms:—The toxic manifestations of these two compounds are similar, the mechanism of their poisonous action being that of a cholinesterase inhibitor. The organic phosphates affect the postganglionic cholinergic nerves, that is, the nerves supplying smooth muscles and glands. This action has been termed the muscarinic effect. This particular action would manifest itself in man as follows: a. Lacrimation, b. Salivation, c. Sweating, d. Symptoms referrable to the gastrointestinal tract, i.e., nausea, vomiting, diarrhea, e. Respiratory distress as the result of bronchiolar constriction. These symptoms may be exaggerated in individuals with asthmatic tendencies, f. Miosis and disturbance of vision.

The organic phosphates affect also the preganglionic and somatic motor nerves. This phase of their action is termed the nicotinic effect. The symptoms this action could produce may be listed as follows: a. Flushing of the skin. b. Throbbing in the head. c. Effects on the blood pressure. d. Various grades of heart block. e. Muscular tremors of peripheral origin. To what extent convulsions enter the picture is problematical. All evidence points to the conclusion that the cerebral motor cortex is not involved. Convulsions, if they should occur, may be of asphyxial origin and not as the result of a direct action of the organic phosphates.

Fatal dose:—The organic phosphates are from 3 to 5 times as toxic as nicotine. Since the fatal dose for nicotine is estimated as 60 milligrams (1 grain), 12 to 20 milligrams (1/5 to 1/3 grains) of parathion or tetraethyl pyrophosphate may be considered as a poisonous quantity and liable to prove fatal. As little as 0.05 cc. (1 small drop) of the concentrated materials splashed into the eye may be fatal. *Fatal period*:—Onset of symptoms and time of death depends somewhat on the quantity ingested. in a general way, toxic effects make their appearance within 30 minutes, and death in the majority of fatal poisonings occurs between 1½ and 4 hours. *Pathology*:—In acute poisonings little of note is observed. In chronically poisoned animals enterocolitis and necrosis of the gall bladder are the predominant injuries. *Treatment*:—The usual measures for removal of the poison from the stomach and intestinal tract are recommended. Atropine sulfate is a physiological antidote for the muscarinic effect of the organic phosphates. Most of the first group of symptoms listed above would be alleviated by a 0.5 to 1.0 mg. dose. Whether or not this dose should be repeated would depend on the response of the patient. The development of mydriasis and dry mouth and throat is an indication that enough atropine has been given, and nothing could be gained by administering more of the drug. Atropine does not antidote the nicotine action of the organic phosphates. Peripheral muscular depressants appear to be of some value for controlling the tremors. Curare has this effect, but the therapeutic margin is quite narrow. The parenteral administration of magnesium sulfate may be a better choice. When magnesium is given parenterally one must guard against respiratory failure. Calcium successfully counteracts this action and it is therefore advisable that a solution of calcium chloride or gluconate for intravenous administration be available should the magnesium dosage be exceeded.

INSECTIDE ACTIVATORS: This includes a group of compounds which will enhance the insecticidal effect of derris and pyrethrum. Two compounds, N-propyl isomer and piperonyl butoxide, are of commercial importance at present. These compounds are relatively inactive pharmacologically. The quantities necessary to produce poisoning are quite large, being of the order of 10-12 grams per kg., so that the hazards from ingesting a single dose of these materials appear to be of minor importance.

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TIC ESSENTIALS OF

This list of aromatic essentials represents many of the materials offered by van Ameringen-Haebler particularly for use by the soap maker. All items sold under the van Ameringen-Haebler label have passed our usual rigid control standards and they can be relied upon for their stability and uniformity of odor. Bold faced listings are featured products of our plant which we consider to be of special interest. They are either new research discoveries embodying stimulating new odor characters or they are unusual grades of well known materials.

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Acetophenone
Alcohol C-8
" C-9
" C-10
" C-11
" C-12
Aldehyde C-8
" C-9
" C-11 (undecylenic)
" C-12
" C-14
" C-16 (Methyl Phenyl Ethyl Glycidate)
" C-18
Allyl Caproate
Ambrain—the concentrated heart of Labdanum, without waxes or gum.
Amyl Cinnamic Aldehyde (Flomine Coeur)
Anisic Acetate
Anisic Alcohol
Aubepine (Anisic Aldehyde)

Benzoin Coeur
Benzophenone
Benzyl Acetate
Benzyl Salicylate
Bromstyrol
Bois de Rose Terpeneless
Cedarwood Oil White
Cedrenol—Sweet, woody, rich-very lasting and stable in soap.
Cedrenyl Acetate—Lively, woody, balsamic, sweet and lasting.
Cinnamic Alcohol
Cinnamic Aldehyde
Citral
Citronellol Coeur
Citronellyl Acetate
Citronellyl Propionate
Civetone
Coumarine

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Dimethyl Benzyl Carbinyl Acetate—Rich, Roseotto note, very floral, powerful and sweet in soap.
Diphenyl Oxide
Ethyl Phenyl Acetate
Eugenol U.S.P.
Eugenol 95%
Fructone — Remarkably powerful fruit character for soap.
Fruit Ketone — Fruity, refreshing, pineapple note.
Galbanum Soluble Resin.
Geraniol Absolute
Geraniol C.D.
Geraniol Coeur
Geranoxide—Rosy, good in soap.
Geranyl Acetate Coeur
Geranyl Butyrate
Geranyl Propionate
Girella—Inexpensive fresh spicy character suitable for use directly in soap products.
Heliotropine
Hydratropic Acetate
Hydratropic Alcohol—Very flowery and lasting in soap.
Hydroxycitronellal
Ionone Extra C-1
Ionone Extra Pure
Ionone Alpha Coeur
Ionone Alpha Methyl
Ionone Beta
Ionone Methyl C-60
Ionone Methyl Gamma Pure—the richest of the Methyl Ionones.
Iso Butyl Phenyl Acetate
Iso Eugenol
Iso Jasmone — Very powerful jasmine body—very lasting in soap.
Iso Jasmone B—Technical grade
Jessemal—Rich Jasmine note, excellent in soap.
Labdanum Resin Absolute
Linalool B
Linalool B Extra
Linalool Coeur
Linalyl Acetate 90-92%
Methyl Benzoate
Methyl Cinnamate
Methyl Hexyl Ketone
Methyl Nonyl Acetaldehyde
Methyl Phenyl Acetate
Myrrh Coeur (Resin Absolute)
Nerolin
Oak Moss Absolute
Olibanum Coeur (Resin Absolute)
Opoponax Resin Absolute
Para Cresyl Acetate
Para Cresyl Phenyl Acetate
Petitgrain Absolute
Phenyl Acetaldehyde Dimethyl Acetal
Phenyl Ethyl Acetate
Phenyl Ethyl Alcohol
Phenyl Ethyl Benzoate
Phenyl Ethyl Cinnamate
Phenyl Ethyl Propionate
Phenyl Propyl Alcohol
Phenyl Propyl Propionate
Rhodinol Coeur
Rhodinol Acetate
Styrax Clarified Extra
Styrallyl Acetate
Styrallyl Alcohol
Talia — A new chemical possessing a green, leafy, powerful, violet-like character.
Terpineol
Terpinyl Acetate
Terpinyl Propionate



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●

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●

All of our soap perfumes are completely tested in sample soap cakes and we will be glad to show you our samples in this finished form for your convenience.

VAN MERINGEN-HAEBLER, IN

LABEL PROBLEMS

Insecticide, disinfectant, rodenticide marketing grows more complicated . . . how to label under new laws . . . ten specimen labels are shown and discussed.

TO LABEL an insecticide, disinfectant, rodenticide or other product classified under the questionable, but nevertheless all-inclusive term, "economic poison,"—and avoid conflict with state and federal laws,—becomes a matter of growing complications as time goes on. With a multiplication of new state laws and regulations, and a new federal insecticide law still in its infancy, label problems for the average manufacturer loom larger than they ever have before. And in spite of the seriousness of the entire matter, the proportion of manufacturers who have a working knowledge of label requirements appears to be small. Ignorance of requirements would seem to be wide-spread to the point where some products on the market indicate that their makers or marketers do not know that there *are* laws governing product composition and labeling with which they must comply. Not always are these newcomers to the field, although such are usually the main offenders.

Changing requirements for insecticide, germicide and allied labels make it imperative that those who market such products keep abreast of new laws and regulations. No assurance exists that a quantity of labels or lithographed containers made up by a manufacturer in the light of latest regulatory information available, may not be illegal in some states by the time the package reaches the dealers' shelves. Under such conditions, however, enforcement officials are invariably inclined to be quite reasonable as has been evinced in the past. But, any hopes that country-wide insecticide law uniformity might grow out of the 1947 federal act appear to grow dimmer as time goes on if proposed laws and revisions are criteria.

Although several states have recently been in the process of adopting new or revised "economic poison" laws, which by now may have been adopted, the general status of the situation in the 48 states was about as follows as of March 1, 1949:

1. About three-fourths of all the states have economic poison laws on their books of which 20 states require registration of household products such as insect sprays, disinfectants, etc.
2. Six states have economic poison laws but apply them only to agricultural products and exempt household products—Arizona, Florida, Georgia, New Jersey, South Carolina, and Texas.
3. Seven states have laws which apply to household products, but do *not* require registration. —Connecticut, New York, Michigan, Iowa, Virginia, Utah, and Wisconsin.
4. Fees for registration vary from state to state from $2 per brand in Wyoming up to $15 per brand in Oregon and Kansas. Most of the higher-rate states allow varying reductions in registration fees per brand for multiple brand registrations. Two states require registration of household products, but do *not* charge a fee,—Kentucky and Montana.
5. Under the U. S. Insecticide Act of 1947 registration is required, but no fee is charged. Canada requires registration of household products, the fee for which is $20 per brand for first registration and $5 per brand annually thereafter for renewal.

In labeling any insecticide or other economic poison, certain basic principles should be followed. First and foremost, the product should do what the label says it will do. If the label says the product will kill roaches, it most certainly must kill roaches. And the manufacturer should and must be certain of this based on his own knowledge. Although imagination undoubtedly plays a wide part in some label writing,—this is particularly obvious in the case of certain new products which have been examined,—it must be eliminated if the marketer of the product desires to avoid conflict with the law. Label statements should be plain true *statements of fact*,—definitely known and provable facts. All superlatives and needless sales chatter are best left off. Users seldom believe them anyway.

A practice in preparing labels which has been all too common over the years is to pick up one or two established competing products, copy the labels and then go the original products one better by adding a few extra claims and superlatives. In some instances which have

A

NO-NAME
5% DDT
INSECT SPRAY

* * * *

Controls flies, mosquitoes, moths, ants, bedbugs, fleas, carpet beetles, gnats, wasps, silverfish, and some other insects.

* * * *

Active ingredients	100%
Dichloro-diphenyl-trichloroethane (DDT) (DDT setting point, 89° C minimum)	5.0%
Pyrethrins	0.1%
Petroleum distillate	94.9%

Pat. Reissue No. 22,922

* * * *

Use only as directed
Do not use on animals or plants

NO-NAME CHEMICAL CO.
888 Blank St. Blanktown, Ga.
Contents . . . 1 pint

Back panel (A) . . .

Caution

THIS solution when brought into repeated or prolonged contact with the skin can cause toxic symptoms. Avoid inhalation of mist and skin contact. In case of spillage on skin, wash at once with soap and water. Do not take internally. Avoid contamination of foods. Do not spray near flame. Remove fish bowls, plants, and birds or other pets from room before spraying.

FOLLOW THESE DIRECTIONS . . .

Flies, Mosquitoes, Gnats, Wasps . . . Apply directly to screens, porches, floors, closets, baseboard, walls with paint brush or sprayer. Also spray directly on insects when present. Thorough application is necessary for good results. Treated surfaces do not repel or kill insects immediately. Reapply as needed, usually every six weeks, but more frequently where surface is subject to weather or cleaning. Do not apply where oil may be objectionable.

Bedbugs . . . Spray mattresses, woodwork, baseboards and all cracks and crevices. Brush thoroughly on bedsteads and springs. A thorough treatment in this manner should last for several months.

Carpet Beetles, Moths . . . Spray both sides of rugs or carpets, and all floor and baseboard cracks. Spray woolen garments and blankets thoroughly all over with special attention to seams and folds, and spray inside of containers in which they are packed. Repeat monthly unless stored in moth-tight containers.

Fleas and ticks . . . Spray directly on floors, rugs, pet bedding, kennels, and other infested places, and in all cracks. Repeat as needed.

Ants and silverfish . . . Spray all cracks, crevices, floors, and other places where insects are seen or can hide away, or on runways, etc.

B

NO-NAME
Mill and warehouse
INSECT SPRAY

* * * *

Active ingredients	100%
Petroleum distillate; Isobornyl thiocyanoacetate; other related terpenes.	

* * * *

Caution

Avoid contamination of foods and inhalation of spray mist. In large scale spraying, wear respirator or mask. *Do not* spray near open flame. Do *not* smoke while spraying.

* * * *

NO-NAME CHEMICAL COMPANY
888 Blank St., Blanktown, Ga.

Contents . . . 10 gallons

Back panel (B) . . .

DIRECTIONS

NO-NAME MILL and Warehouse INSECT SPRAY may be used to reduce accessible stages of insect infestations in mills, warehouses, barns, stables, etc. For large areas, use only in electric or other heavy duty sprayer giving 25 to 35 foot jet of spray to assure a wide and sufficient application. Close all windows, doors, etc. Spray well into all cracks, crevices, etc. wetting well all possible hidden eggs and insects. Direct spray upward toward junction of ceiling and wall. Work from far corners, walking backward toward exit. Bagged grain should be moved and stacked so that it can be hit from all sides. This insecticide kills only by contact so that all insects and eggs must be hit and wet for effective results. Repeat use regularly, depending upon extent of infestation.

Weevils and certain other crawling insects . . . Direct spray on sacks, walls, floor surfaces, hitting all cracks. Use 1 gallon of spray for every 1,000 square feet of sack and room surface to be covered.

Moths and certain other flying insects . . . Use about 3 ozs. of spray for each 1,000 cubic feet of space. Repeat every 2 to 3 weeks depending on infestation. Watch for migration periods in hot weather. Application in early stages of insect emergence is most effective.

Empty rooms, grain bins, etc . . . Spray all surfaces, in cracks, etc. thoroughly and close up for a few hours if possible.

Stacked grain . . . Spray to hit all sides of bags as well as all floor areas, walls, posts, cracks, etc.

An hour or two after spraying, all dead and dying insects should be swept up and burned.

C

NO-NAME
ROACH SPRAY

* * * *

Especially for killing roaches, waterbugs, ants, bedbugs, and certain other insects.

* * * *

Active ingredients	100%
Chlordane*	2%
Beta butoxy beta thiocyano diethyl ether	1%
Petroleum distillate	97%

*Equivalent to 1.2% octachlor-4*7-methanotetra-hydroindane and 0.8% related active compounds.

* * * *

Caution

This solution if brought into repeated or prolonged contact with the skin, can cause toxic symptoms. Avoid excessive inhalation or skin contact. In case of spillage on skin, wash with soap and water. Do not use on household pets or humans.

NO-NAME CHEMICAL CO.
888 Blank St., Blanktown, Ga.
Contents . . . 1 pint

Back panel (C) . . .

DIRECTIONS

Use only as directed

NO-NAME ROACH SPRAY is a killing spray with a residual action against roaches, waterbugs, ants, bedbugs, and certain other insects. It kills after it has been sprayed on and hits the insects and for a prolonged period the residue will kill insects after they have walked through it.

Spray floors, walls, shelves, sinks, floors, and other places where roaches and ants frequent, especially spray well around pipes and into all cracks, crevices, behind baseboards, on and around garbage cans, etc. Force spray well into all openings and cracks. Spray mattresses and beds thoroughly for bedbugs. This liquid may also be applied freely to baseboards, cracks, shelves, beds, walls, screens, etc. with a paint brush if desired.

Repeat treatment weekly until no insects are seen, and then once monthly as a preventive against further infestation. Before spraying, cover or remove all foods, plants, and pets.

D

NO-NAME
PINE OIL
DISINFECTANT

* * * *

Coefficient 5 F. D. A.

Active ingredients	90%
Pine Oil, soap.	
Inert ingredients	10%
Water	

* * * *

A fragrant pine product for disinfecting, deodorizing, cleaning
Dilute with water according to directions before using

NO-NAME CHEMICAL COMPANY
888 Blank St., Blanktown, Ga.
Contents . . . 1 gallon

Back panel (D) . . .

DIRECTIONS

NO-NAME PINE OIL DISINFECTANT must be diluted before using. For cleaning and disinfecting toilets, water closets, garbage pails, utensils, cuspidors, chicken coops, stables, floors, walls, etc. in schools, public buildings, theatres, stores, offices and other premises, make up a solution by pouring ½ pint (an ordinary water glass full) of disinfectant into a suitable pail and adding 25 quarts of water, preferably about body temperature.

First, the objects, floors, toilets, garbage pails, etc. should be cleaned thoroughly. Second, wet thoroughly and all over with the disinfectant solution. Be certain all areas and parts are wet.

For general deodorizing while cleaning, add a small quantity of disinfectant to scrub water. For sweeping, sprinkle floor with the diluted disinfectant given above, or moisten sawdust with this diluted disinfectant and throw around floor to keep down dust while sweeping.

For deodorizing stables, chicken coops, etc., spray or sprinkle the diluted disinfectant freely around on walls and floors. For deodorizing, pour solution in drains, traps, sinks, etc.

been known, the marketers merely picked the extra claims out of their heads with no apparent thought of provability. The belief that the new product must be better and do more than the old, or else it cannot sell, is probably behind such label writing. This point is brought out to emphasize once again that a manufacturer must *know* what his product is and what it will do, and base his label claims on these facts alone. Otherwise, he must eventually tangle with enforcement officials, invariably to his sorrow.

Some confusion occasionally arises from the fact that a manufacturer may not know that his product comes within the regulatory scope of the federal act or state economic poison laws. Inadvertently, he may claim that his product in addition to being an excellent detergent, soap, paint, or what-not also kills germs, fungi, or insects. By these claims, he places the product within the purview of such laws as regulate the composition, sale and labeling of fungi and insect killers, and obligates himself to the point that his product must then meet all provisions of the economic poison laws including killing insects and fungi when used as directed. It is this casual reference to germicidal effects which sometimes gets a manufacturer into hot water. Nevertheless, any claims, casual or otherwise, of germicidal or insecticidal efficacy automatically bring a product under applicable laws.

The second important factor in labeling an insecticide, disinfectant, etc. is the statement of composition, or rather the statement of active and inert ingredients. If the product is shipped and sold across a state line, irrespective of individual state regulations which may also apply, the product and label must comply with the federal Insecticide, Fungicide and Rodenticide Act, now generally termed the new Insecticide Act of 1947, which replaced the old U. S. Insecticide Act of 1910. Regulations covering the enforcement of this law have been compiled by the U. S. Department of Agriculture.*

The federal law calls for the

* The Federal Law and regulations, with rulings and interpretations, in addition to all state laws and regulations,—also Canada, and Hawaii,—are included in full in the Compilation of Economic Poison Laws sold by the National Assn. of Insecticide & Disinfectant Mfrs., 110 E. 42nd St., N. Y.

E

NO-NAME
COAL TAR
DISINFECTANT

Coeff. 3 F. D. A.

* * * *

Active ingredients	90%
Coal tar neutral oils, soap, phenols	
Inert ingredient (water)	10%

* * * *

Caution

Harmful if taken internally. Avoid contact with skin. Keep away from children, pets and foods. Use only diluted with water according to directions.

* * * *

NO-NAME CHEMICAL COMPANY
888 Blank St., Blanktown, Ga.

Contents . . . 1 gallon

Back panel (E) . . .

DIRECTIONS

Make solutions by adding the water to the disinfectant. This is particularly necessary where cold or hard water is used. If possible use water about body temperature.

Clean up all dirt and surfaces before applying disinfectant solution and make sure solution comes in contact with all infected areas. Dilutions should be made as follows:

Solution A: Add 60 parts water to 1 of Disinfectant. (½ pt. disinfectant, 15 pints water.)

Solution B: Add 100 parts water to 1 of Disinfectant. (½ pt. disinfectant, 25 quarts water.)

(Average drinking tumbler holds about ½ pint.)

* * * *

Toilets and urinals—Clean and flush with solution A, also for washing seats, floors, etc.

Public places—Schools, stores, factories, etc. Wash freely floors, walls, desks, etc. with Solution A.

Cuspidors—Clean with solution A. Leave small amount in bottom when replacing to act as a disinfectant.

Garbage pails—Scrub out with Solution A using freely.

Stables, chicken coops, etc.—Clean thoroughly and then wash down floors, walls, roosts, etc. with Solution A.

* * * *

For general cleaning—Where disinfection is not required, wash basements, floors, walls, etc. with Solution B. Add a small amount of disinfectant to mopping water to aid in cleaning and deodorizing. When sweeping, sprinkle Solution A over areas to be swept to help keep dust down. Make sweeping compound by wetting sawdust with Solution A. and use when sweeping dusty areas.

F

NO-NAME
GERMICIDE

* * * *

Disinfectant . . . Germicide . . . Fungicide

Active ingredients	10%
Alkyl* dimethyl benzyl ammonium chlorides	
*C_8H_{17} to $C_{18}H_{37}$	
Inert ingredients	90%

* * * *

DILUTE BEFORE USING

This is a concentrated product which must be diluted according to directions before use.

* * * *

Non-corrosive, non-poisonous when used as directed

* * * *

NO-NAME CHEMICAL COMPANY.
888 Blank St., Blanktown, Ga.

Contents . . . 1 Quart.

Back panel (F) . . .

Caution

Do not use this germicide in conjunction with soap or any detergent or wetting agent. Avoid contamination of foods.

* * * *

DIRECTIONS

In making solutions of this germicide, add to water and make sure solution is well mixed before use. For glasses, dishes, forks, spoons, cooking utensils, etc., wash first with suitable detergent, rinse thoroughly in clean water and then dip in solution of 1 oz. of Germicide to 4 gallons of water. Leave immersed for a half-minute and then allow to drain dry. Do not wipe with towel.

NO-NAME Germicide may be used for general disinfecting purposes in sick rooms, water closets, and in and around swimming pools, dairies and other food processing plants. Use solution of 1 oz. of Germicide to 4 gallons of water and apply so as to wet all surfaces after they have been cleaned carefully of all adhering organic matter.

For anti-fungicidal use, soak socks, towels, bath mats, etc. for at least ten minutes in a solution of 2 ozs. of Germicide in 3 quarts of water. Use this also to wash down floors, lockers, benches, etc.

* * * *

NO-NAME GERMICIDE is a solution of cationic disinfectant having high germicidal properties. Tests made by F. D. A. Method show that it will destroy the following bacteria or fungi within 10 minutes at 20°C (68°F) when diluted at 1 to 2500:

Eberthella typhosa (Hopkins strain)
Staph. aureus (F. D. A. No. 209)

* * * *

Contains no chlorine, mercury or other metallic compounds.

statement of ingredients in either of two ways, usually termed "optional labeling." To quote directly from the law, this means (1) a statement of the name and percentage of each active ingredient, together with the total percentage of inert ingredients, or (2) a statement of the name of each active ingredient, together with the name of each and total percentage of inert ingredients if any there be. On the label for any product "highly toxic to man" the method (1) *must* be used.

The term "active ingredient" does not mean just any product or material which a manufacturer chooses to believe is "active." It must be a compound or substance which definitely does "prevent, destroy, repel, or mitigate" insects, rodents, bacteria, etc. Furthermore, the amount of any active ingredient or ingredients present in a product must be sufficient to accomplish the claims for the product under the conditions called for in the directions for use. Otherwise, the product probably will not be accepted for registration even though accurately and correctly labeled. For example, a product composed of 1% sodium fluoride and 99% talc,—to use an exaggerated case,—intended for a roach powder, would not be accepted for registration because it is obviously ineffectual. Even though labeled correctly in every detail, the composition as revealed by the label must also indicate that the product will do the job for which it is sold.

To return to the subject of "optional labeling" as permitted under the federal act and most state laws,—a few states require the above method (1) with the percentages of each active ingredient,—two examples show how this can work out under the federal law. For example, a label for 5% DDT Insect Spray, shown in detail as Label A, could also state the ingredients under the optional method (2) as follows: Active Ingredients.....100% Petroleum distillate; dichlorodiphenyl-trichloroethane (DDT); pyrethrins.

This "optional labeling" makes no mention of inert ingredients because there are none, and does not give the detailed percentage of each active ingredient.

Where "optional labeling" is used, it is required that the information listing both active and inert ingredients be given in "descending order," that is, the ingredients must be named in order starting with the largest quantity and following down to the smallest. This applies both to active and inert ingredients.

If a label is submitted for registration, and USDA or a state official conclude from the ingredient statement given that the product cannot accomplish the job for which it is being sold or is to be sold, refusal to accept the product for registration usually follows. If the ingredient statement as submitted appears satisfactory and the product is accepted for registration, then the composition of the material must meet the label statement or the law is violated. And it must be of this composition at the time of examination if and when a sample of the product might be picked up in the channels of interstate commerce by a USDA inspector, or within a state border by a state inspector. Also, if a product which has been refused registration continues to be marketed, the law likewise is violated. This is the basic principle for the enforcement of all economic poison

Note: In label G below, reference to rats seeking water and dying outdoors is not acceptable to USDA and some states. It is suggested that this be omitted.—Editor.

G

NO-NAME
RAT KILLER

* * * *

Relatively non-poisonous to humans and domestic animals
Keep away from children, pets and foodstuffs

* * * *

Active ingredient..... 10.00%
Red squill powder (Fortified).....Minimum toxicity
LD 50% for male rats 500 mg kg.
Inert ingredients..... 90.00%

* * * *

NO-NAME CHEMICAL COMPANY
888 Blank St., Blanktown, Ga.

Contents . . 8 oz. net.

Back panel (G) . . .

NO-NAME RAT KILLER is an effective killer against rats, but is relatively harmless to human beings and domestic animals. This product is composed of cooked ground meat, cereals and fortified red squill. Because of the action of this product, the rats usually seek fresh air and water. They will thus die out of doors if water is not made accessible to them on premises. Do not plug up rat holes. This package will make about 40 to 50 baits. Do not mix anything with this rat killer, but use from the can direct as is.

DIRECTIONS

Do not touch bait with bare hands as rats have a keen sense of smell. Use a spoon or knife and spread on dry ground or shelves or boards wherever rats may frequent. Keep baits about 3 or 4 feet apart. Each bait should be about the size of a small marble. Larger baits are unnecessary.

If entire contents are not used at one time, replace cover tightly. Store in a cool place. Product will keep and remain effective for indefinite periods under these conditions.

H

NO-NAME
MOTH CRYSTALS

* * * *

Kills moths and moth larvae when used as directed

* * * *

Active ingredient (Paradichlorobenzene)..... 100%

* * * *

Will kill moths if used in the ratio of 1 lb. of crystals to 80 or 90 cubic feet or less of space in confined chest, closet or other area.

* * * *

NO-NAME CHEMICAL COMPANY
888 Blank St., Blanktown, Ga.

Contents . . . 1 lb. net.

Back panel (H) . . .

DIRECTIONS

TO KILL moths and avoid moth damage, use Moth Crystals in trunks, chests, closets, etc. Sprinkle 1 lb. for each 60 or 80 cubic feet of space. Close container tightly and seal all cracks and crevices.

Keep cover on tightly when not in use.

These Moth Crystals are recommended for use in controlling moths and moth larvae in bureaus, trunks, garment bags, chests, cupboards, or other closed and confined areas.

When packing away rugs, blankets, clothing or other articles attacked by moths, sift in freely between layers and cover well on top before closing container. Pour freely in moth bags before sealing shut.

Modern vacuum cleaners are equipped with attachments for using these crystals.

laws, the label and composition in each instance being the determining factors in registration and law enforcement.

On the whole, labels which meet the requirements of the Federal Insecticide Act, also meet the requirements of most states. However, this is not true in all cases and there seems to be a tendency away from this uniformity as shown by proposed legislation in a few states. In a small number of cases, manufacturers have withdrawn certain of their products from one or two state markets, because of the inconvenience of meeting label requirements, or because the small volume of business enjoyed has made it uneconomic to meet such requirements. Where a manufacturer or marketer is at all uncertain regarding the requirements of states into which he proposes to extend his sale, it behooves him at this time, more than ever before, to familiarize himself with these state laws and regulations. The same is true of states in which he has been selling where a law change may alter the status of his products. His trade associations are probably doing all in their power to keep him informed promptly, but he should in addition himself know the regulations under which he is operating.

Experience shows that where a manufacturer runs into difficulties with his labels, but where he indicates a sincere endeavor to comply with regulations, most enforcement officials have been wholly cooperative. This does not necessarily mean that the manufacturer must accede to all official demands if he honestly believes that he is meeting the requirements of the law in the light of his own knowledge or expert technical advice. On the whole, officials have been reasonable and helpful. However, a warning might well be placed here to those manufacturers who cut the corners or who revert to label tricks and trick wording. They may find "the book thrown at them,"—for most enforcement officials know all the answers and all the tricks and do not fancy clever dodges.

Thus far under the new Federal Insecticide Law, hundreds of manufacturers have straightened out their label problems through direct consultation and cooperation with USDA officials. The Department has done everything within the law to aid manufacturers to adjust their labels under the new regulations and to avoid hardship cases, but has shown an inclination to become tougher than ever on the questionable or obviously phony product.

Outlined here are specimen labels for ten products which represent types being commonly produced and sold today. Two panels for each label are given, the front with name, ingredient statement, and the usual cautions, and the back panel with directions for use and other pertinent information. These labels are based on those of leading manufacturers which were obtained with permission to reproduce the information here. In some instances, the directions have been shortened or other minor changes have been made, but the basic features of each remain unchanged. All have been submitted to Washington in connection with the registration of a product with USDA, and although USDA actually approves no labels at any time, these labels and their products have been accepted for registration.

In some instances, more detailed information is given on labels here than is required by the federal law. In the case of the 5% DDT Insect Spray label, it is noteworthy that roaches are not mentioned as an insect which may be controlled. The residual effectiveness of 5% DDT here is a controversial point, and because of such, roaches are deliberately omitted although the oil and 0.1% pyrethrins should be sufficient to kill these insects if and when the spray hits them. In the case of the Moth Crystal label, note the recommendation of 60 to 80 cubic feet per pound of paradichlorobenzene instead of the 100 cubic feet permitted by USDA as the safe maximum,—apparently to allow a margin of safety for "human error."

Note also the composition of the 10% DDT Insecticide Powder. In addition to this large percentage of DDT which is generally accepted as sufficient to kill roaches, this product also contains pyrethrum powder and 1% rotenone. This is

(*Turn to Page* 238)

J

NO-NAME

ROACH POWDER

* * * *

Active ingredients	75.03%
Sodium fluoride	65.00%
Sodium tetraborate	10.00%
Pyrethrins	0.03%
Inert ingredients	24.97%

* * * *

Caution

Avoid contamination of foods
Do not inhale dust
Store away from children and pets

* * * *

Warning: May be fatal if taken internally

* * * *

NO-NAME CHEMICAL CO.
888 Blank St., Blanktown, Ga.

Contents . . . 8 oz. net

Back panel (J) . . .

DIRECTIONS FOR USE

SPRINKLE or dust this powder from the container into all cracks and crevices, around sinks and pipes, along and behind baseboards, in collars and closets, on shelves, floors and other places where roaches or ants are seen. Keep powder dry. If it becomes wet or damp, it loses its effectiveness. Sweep up old powder weekly and replace with a new supply as long as roaches are seen.

Use powder also as a preventive for a month or two even if no further roaches or ants are seen. Its regular use as above will help to prevent further development of infestations.

If children or domestic animals frequent places where powder has to be used, it is suggested that NO-NAME ROACH SPRAY be used instead.



PERFUME OILS FOR:

INSECTICIDES
FLY SPRAYS
THEATER SPRAYS
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DETERGENTS
POLISHES
DISINFECTANTS
DEODORANT BLOCKS

In a new product development and old product improvement, the *right* odor is an important sales factor.

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Registration procedure under the new

FEDERAL INSECTICIDE LAW

By W. G. Reed*

Chief, Insecticide Division
Livestock Branch, U.S.D.A.

IN a large majority of cases the problems encountered in connection with registration of products under the new Federal Insecticide, Fungicide and Rodenticide Act are not new, but have been with us for years. Registration merely brings them forcibly to our attention.

To facilitate the registration of economic poisons, certain points should be observed when applications are submitted. The person preparing the application should study carefully the instructions and note in particular the seven items of information required to be on the label. It is essential that this information be given. A number of registrations have been held up or delayed because the applicant has not followed these instructions. Requests for registration should be made on the application blanks provided by the U.S. Department of Agriculture, as this facilitates handling. Applications made in letter form are acceptable but use of the application blank is preferable and speeds up the operation. The application should give the name and address of the registrant or the name and address of the person whose name will appear on the label, and the name, brand, or trade-mark under which the economic poison is to be sold. A statement of all claims to be made for the economic poison, including the directions for use, should also be submitted. Requests for the registration of several economic poisons may be made on the same application blank. Before submitting labels for registration, they should be reviewed carefully to see that the required information is given. Many labels which were satisfactory under the Insecticide Act of 1910, will, of course, not meet the new requirements. Labeling may be in rough draft or typewritten form but should show the proposed wording, lay-out, size of type, and color. Duplicate copies of the finished labels prepared from the sketches accepted for registration must be submitted as soon as they are printed. Registration does not relieve the registrant of any responsibility under the law. However, every label submitted is scrutinized closely and the applicant notified when defects are observed.

All labels and labeling should be submitted in duplicate. The labeling should be firmly attached to the data sheet (size 8½ x 11 inches), on which is given the name and address of the applicant and the brand name of the economic poison. Duplicate copies of all the material, except the application form, are required to be submitted. The application and one copy of the labeling are retained in the office files of the Insecticide Division and the other copy is returned to the applicant when the registration notice is issued. Failure to submit labeling in duplicate results in delays. The application should be accompanied by a statement giving the name and percentage of each active ingredient and any pertinent information concerning the inactive ingredients, if such information is not shown on the label itself. Unless our scientific personnel know the composition of an economic poison, they are unable to evaluate the claims properly or judge whether the directions for use are adequate. Information concerning formulas, other than that required by law to appear on the label, may be submitted as confidential and it will be so handled in the Department.

It is urged that applications for registration be submitted as far in advance as possible of the date when the label accompanying it is to be used. The new law requires the net content to be shown on labels. Frequently labels are received that do not bear such a statement and the applicant fails to indicate on the data sheet that it will be added by stamping or stenciling. In a large number of instances, the label submitted would have been satisfactory but action had to be delayed until the necessary information could be obtained.

Net content must be stated in terms of the largest unit present. Many labels are offered for registration with the net content stated as 16 fluid ounces, 32 fluid ounces, or 128 fluid ounces. There is no objection to the use of these statements provided the net content is also shown as 1 pint, 1 quart, or 1 gallon. Frequently ingredients are not listed by their correct names. A common fault is the use of trade names and

* Based on a talk before the Natl. Assn. Insecticide & Disinfectant Mfrgs., Spring Lake, N. J., June 15, 1948, and reprinted in the July, 1948, issue of *Soap and Sanitary Chemicals*.

abbreviation, rather than the common name or the exact chemical name.

When the second form of ingredient statement(Section 2j (2)) is used, both the active and inert ingredients must be named in the descending order of the amounts present, and the total percentage of the inert ingredients given. Unless the formula is shown on the data sheet for our information, it is impossible to determine whether or not the ingredients are given in their proper order. We have observed a number of ingredient statements where the active and inert ingredients were not designated as such. In other cases, the statement "Inert Ingredient" has not been given the same prominence as the statement "Active Ingredient."

In some cases an applicant has submitted a label for a small container on which it is permissible to place the ingredient statement on a panel other than the front, and later he has sent us a similar label for a larger size that requires the ingredient statement on that part of the container that is displayed under customary conditions of purchase. It is not required that the ingredient statement appear on the front panel of pint or pound packages; neither is it required on smaller size containers. When typewritten labels are submitted, information should be furnished concerning the size and style of type and the color scheme that will be used on the finished labels. Unless this is done, there is a possibility that some feature of the finished label may be given undue prominence.

In connection with entomological claims as they appear in the labeling of insecticides, it is often the case that directions for use are inadequate or lacking entirely. If concisely stated, the directions can be written so as to provide all the essential information for adequate control of particular pests or certain types of pest, without consuming too much label space. The directions should be given for the control of the various insects named on the label and they should be associated, rather conspicuously, with the specific names of the pests. When generalized, the directions usually lose in informative value.

Often the pests are not specified against which the product is to be applied. To name all individual controllable species is not feasible in many cases and is not necessary; however, the types of insects which the product is intended to control should be indicated. We have observed quite a number of labels that have inappropriate recommendations. For instance, lice are confined to the animals and birds upon which they feed and therefore would not be controllable by application of insecticides to premises only. The broad term "mite" should always be qualified, as by referring to poultry red mite or sarcoptic mange mite. No mites are of general importance as household pests, although they are frequently referred to in the labeling of household insecticides. Weevils, moths, and termites are names for particular groups of insects which are wrongly employed as synonyms for cereal pests, clothes moths, and boring insects, respectively. The expression "stored product pests" or "cereal pests" is more specific than the word "weevils," a term which would apply also to such insects as the plum curculio and the alfalfa weevil. Unless fabric protection is mentioned, the word "moth" is ambiguous and might refer to any moth attracted to lights from outdoors or moths from infected breakfast cereals in the kitchen. The word "termite" should be restricted to true termites which must be controlled by wood or soil treatments with particular insecticides.

Specialized uses of insecticides should be distinguished carefully in the writing of label directions. For instance, an ordinary space-type moth spray should not be referred to as a mothproofer unless it will actually give this type of protection when used as directed. In order to mothproof fabrics, the goods must be moistened or dampened throughout. Otherwise, no period of protection should be claimed for articles not stored in insect-tight containers. Directions for applications of insecticides having residual value should be clearly distinguished from directions for space spraying, especially in the control of flying types of insects.

A number of expressions are commonly employed in insecticide labeling which are not warranted. Examples of these are the words "eliminate," "eradicate," and "exterminate" for which "kill" or "control" are usually suitable substitutes. Expressions frequently employed which are too inclusive when unqualified are "insects," "other insects," and the abbreviation, "etc." Particular controllable pests might be named or indicated by a group designation. The comparison of one product with another, such as DDT and sodium fluoride, usually leads to general statements which are false and unwarranted. To state that one product or compound is a certain number of times more effective than another compound is true for but a limited set of conditions.

In the registration of germicides and disinfectants, the number of labels which have been submitted, bearing unwarranted sterilizing claims, is surprising. Many applicants have attempted to employ qualifying words with these claims —such as, "practically sterile," "commercially sterile," or "surgically sterile." It is the opinion of the Insecticide Division that an article is either sterile or it is not sterile. The words "sterilize" "sterilization," and "sterile" are exact terms which cannot be qualified. They express a precise idea; namely, the freeing of a material, container, or space from living microorganisms of all kinds. If a thing has been treated in such a way that no growths of any kind can be produced from it by appropriate culture, then—and then only—has it been sterilized.

Many labels have been submitted carrying objectionable phenol coefficient claims. Where such a claim is made, it should represent the activity of the product as offered for sale, and should not be expressed as a value calculated on the basis of one of the active ingredients. It

should not be given in a sliding scale form. When employed, the recommended use dilution for disinfecting should be no greater than 1 part of disinfectant or germicide to a number of parts of water, found by multiplying the phenol coefficient as determined against *E. typhosa* by 20. The coefficient should not be stated on the labels of mercurials since it tends to give a misleading picture of their germicidal efficiency. In stating the coefficient, reference to the test organism may be included; but, if it is not given, it is assumed that the determination was made using *E. typhosa*. Years of experience have shown that with many types of commercial disinfectants, the phenol coefficient as determined by the official A.O.A.C. method provides a reliable presumptive index to germicidal activity, and when employed as herein indicated, will usually serve to provide use solutions of adequate strength to disinfect inanimate objects. For this reason, the Insecticide Division recognizes and uses this method and will continue to do so until a more appropriate test can be worked out. It will, of course, always be true that the final criterion of effectiveness with any disinfectant is a test conducted under the actual conditions existing where the product is recommended for use.

The Federal Insecticide, Fungicide, and Rodenticide Act stipulates that the label shall bear adequate directions for use. Factors which must be considered in preparing adequate label directions for use with disinfectants are (1) the nature of the germicide itself and (2) the uses recommended.

Applicants have often failed to recognize that pine oil disinfectants are not effective against pyogenic bacteria and should not be recommended for hospital use where such organisms have special significance; that sodium hydroxide or lye is not effective against *Mycobacterium tuberculosis* and should not be recommended for use in disinfecting premises where the primary objective is the elimination of this specific organism; and that hypochlorites and quaternary ammonium germicides should not be recommended for use on uncleaned surfaces, since they combine readily with organic matter to be inactivated.

Frequently the only direction given is a statement on the concentration of the product to use. An indication in outline form, at least, of the mode of application should also be given. When a product is recommended for the cold disinfection of surgical instruments, use directions should adequately outline a mode of application that will insure contact of the disinfecting solution with the infectious agents which may be present on the instruments. This will require instructions for cleaning the instruments prior to or on immersion in the disinfecting solution to remove adhering blood and serous exudates. Where surface active products having a special affinity for fabrics are recommended for disinfecting fabrics, the directions should be quantitative with respect to an amount of product to a given amount of fabric by weight. If a product is recommended to disinfect poultry drinking water, the directions for use should specify addition to the water at such concentrations and in such a manner as to disinfect the water at all times.

Directions prescribing dilution of coal tar distillates, pine oil, and other products in mineral oil, kerosene, fuel oil, or other anhydrous solvents for the disinfection of poultry houses and stables are objectionable, since products applied in this manner cannot be relied upon to disinfect.

Labeling Sanitizers

Recently a group of new products called "Detergent-Sanitizers" or "Germicidal-Detergents" have appeared on the market. In the labeling of these products, it is essential for the label to differentiate clearly between sanitation and disinfection. If the product is represented solely as a detergent-sanitizer and no germicidal claims made, use directions for cleaning and sanitizing in one operation will be accepted, providing the product when so used will, in fact reduce the bacterial counts of dishes, glasses, dairy utensils, and food-handling equipment to safe levels as judged by Public Health requirements. If the product is represented as a germicide or to possess bactericidal properties, directions for sanitizing uses alone are not considered sufficient to provide for the requirements in the law. They may be given but the label must also carry directions for application of the product in such a manner as to give reliable disinfection. This will necessitate instructions for proper cleaning with the detergent-germicide, followed by immersion in a fresh germicidal solution of the product as a disinfecting rinse.

Fungicide labels as a group are in excellent condition. This is probably the result of careful review under the Insecticide Act of 1910. Herbicides, or weed killers, coming under the Act for the first time, have presented a number of problems. The ingredient statement of fungicides and herbicides should show the true chemical names of the ingredients. Trade names of products are not acceptable for names of active ingredients. Products containing copper should show the source or origin of the copper, since the fungicidal activity of copper is associated with the soluble copper content. When copper is present in the form of compounds of definite composition, the name of such compounds should be given—such as, yellow cuprous oxide and copper sulphate. When copper is present as an indefinite compound, the copper is to be expressed as metallic and the source of the copper given—such as, copper (in basic copper sulphate) expressed as metallic. If the name of the fungicide indicates the source of the copper, such as bordeaux mixture or copper carbonate, active ingredient would be stated as copper expressed as metallic.

For herbicides containing sodium arsenite, the chemical name "sodium arsenite" is preferred over the name "arsenic trioxide." Those containing 2,4-dichlorophenoxyacetic acid should give the form of the chemical present. If the 2,4-D product contains the free acid or is a mixture of the free acid and sodium

carbonate, the active ingredient is expressed as the acid, whereas if it is present in the form of sodium salt, amine, or ester, the true chemical name should be given with the equivalent amount of the 2,4-dichlorophenoxyacetic acid also stated as a footnote. When herbicides contain a mixture of the ethanolamine salts, the active ingredients should be expressed as ethanolamine salts of 2,4-dichlorophenoxyacetic acid with the percentage of 2,4-dichlorophenoxyacetic acid also given. The name "alkanolamine salt of 2,4-dichlorophenoxyacetic acid" is too indefinite.

The front panel of the label of a fungicide should contain the names of the principal crops on which it is intended to be used and of the diseases that are to be controlled. Herbicide products should likewise contain the names or types of weeds that are to be controlled or the places or crops where weeds grow that are to be controlled. It is not expected that all crops and their diseases or weeds to be controlled would be given. Broad claims for fungicides—as "For use on fruits, vegetables, and ornamentals"—would not be acceptable, while statements such as control of "peach leaf curl," "apple scab," "tomato late blight," "tobacco wildfires," and similar terms are acceptable. Herbicides claiming use "Against all lawn weeds" or "Control of annual and perennial weeds in grain fields" are too broad and should be modified. The claim for 2,4-D products, "Does not harm common grasses," is too broad since bentgrass and St. Augustine grass are injured by 2,4-D. The top growth of perennial weeds as Canada thistle, leafy spurge, and garlic may be killed by one application of 2,4-D but repeat application for one or more years should be suggested on the label to kill the roots and underground stems of these hard-to-kill weeds. The label should suggest that care must be used to avoid saturation of the ground with 2,4-D chemical, since excessive amounts in the soil will inhibit for a short time the growths of crops planted later.

Precautionary statements to warn of the hazards in the use of fungicides and herbicides on agricultural crops are receiving considerable attention. Fungicides containing sulphur, or lime and sulphur, should bear a warning of possible injury when used on fruit trees in a spray or dust schedule during hot weather. To avoid injury to the crops, such sulphur products are not to be used on apple foliage or fruits within 10 to 15 days or longer, depending on the location, before or after an oil spray. Copper fungicides are not to be recommended for early season sprays or dusts in apple orchards because of the danger of causing fruit russet on copper-sensitive varieties. Contact herbicides as oils, sodium arsenite, and sodium chlorate should contain a warning not to apply them to desirable plants or near roots of such plants. Herbicides containing 2,4-D will injure susceptible desirable broadleaf plants with which they come in contact and adequate precautions must appear on the label to warn of their hazards. Dust products are known to drift for great distances and they may cause injury to beneficial broadleaf plants and crops at a distant point from where the dust is applied. Dusting by airplane in the vicinity of susceptible crops should be avoided; however, spraying by airplane is less hazardous as sprays are less apt to drift. Herbicides containing 2,4-D should not be stored near or transported with seeds, fertilizers, fungicides, or insecticides, since they may become contaminated and cause injury to crops. Sprayers and dusters used to apply 2,4-D herbicide should not be used for other purposes, or if used must be cleaned thoroughly with suitable chemicals. Vapors from esters of 2,4-D may injure crop plants in the immediate vicinity and this should be stressed when giving directions for applying them to weeds in orchards and vineyards.

Fungicide Labeling

The labels of fungicide and herbicide products should contain adequate directions for use against the diseases and weeds intended to be controlled. The directions should indicate the measured amount of the product to add to 1 gallon or 100 gallons of water or other liquid to make a spray, and should give an acceptable rate of application in gallons of spray or in pounds of dust to use per acre. Herbicides containing 2,4-D used on agricultural crops, should give the rate of application in terms of pounds or fractions of pounds of 2,4-dichlorophenoxyacetic acid equivalent per acre. Fungicides used as wood preservatives against wood-rotting fungi should give directions to saturate the wood by dipping, and when brush or spray treatment is recommended, that two or more coats should be applied to saturate wood that comes in contact with the soil. Herbicides are often recommended to kill weeds and woody plants along ditch banks, irrigation ditches, ponds, and streams. Labels for such use should call attention to the hazard of contaminating water used for irrigation or domestic purposes.

Words on the label such as "sterilize" and "sterilization" should not be used. In the minds of those dealing with plant diseases, sterilizing soil means freeing the soil of all plant life including spores. The use of this term in the closely allied herbicide field to mean only rendering the soil unproductive is likely to lead to confusion. The words "eradicate," "eliminate," and "exterminate" are objectionable unless appropriately modified. Words less broad in scope, such as "controls," "reduces," "kills," and "destroys," are acceptable.

The new Act states that "The term 'misbranded' shall apply to any economic poison if the label does not contain a warning or caution statement which may be necessary and, if complied with, adequate to prevent injury to living man and other vertebrate animals, vegetation, and useful invertebrate animals." In addition, the regulations describe what constitutes "highly toxic" poisons.

Manufacturers, in general, have been anxious to conform to the law but certain differences of interpretation have caused some difficulties. This has been particularly true

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How, When and Where to Sell

DISINFECTANTS

By Jack C. Varley *
James Varley & Sons, Inc.

Author's Note: **This article is intended for those interested in the sale and use of commercial disinfectants. No attempt has been made to cover the subject from a technical viewpoint. The average sanitary supply salesman is not always familiar with the various types and grades of disinfectants and as a result is somewhat hesitant to promote their sale and use because of lack of information. This article, attempts to answer briefly and concisely the questions, *How* to use disinfectant, *When* to use disinfectant, *Where* to use disinfectant.**

DISINFECTANTS fall into six industrial types: (1) Coal Tar Disinfectants; (2) Pine Oil Disinfectants; (3) Cresol Disinfectants; (4) Synthetic Phenol Disinfectants; (5) Quaternary Disinfectants; (6) Chlorine Disinfectants.** All commercial disinfectants sold in interstate commerce come under the regulatory control of the Department of Agriculture, Insecticide Division. A standard method of testing disinfectants is used and prescribed by the Department of Agriculture, commonly known as the F.D.A. Method of Test. This testing method involves the use of typhoid germs (*Eberthella typhi*) and all packages of disinfectants sold in interstate commerce must bear a label showing the germ killing power of the product when tested by the F.D.A. Method of Test.

Phenol Coefficient: After a disinfectant has been tested for its germicidal potency, it is given a rating, commonly known as the "phenol coefficient value," which indicates the strength of the disinfectant as compared with pure phenol (carbolic acid, U.S.P.).

Pure phenol, when diluted 1 to 19 with water, has a rating by the F.D.A. Method of Test of one (1). At this dilution phenol kills typhoid germs inside of 10 minutes time. A product which can be diluted 1 to 40 with water and which will also kill typhoid germs inside of 10 minutes is twice as strong as phenol, and such a product is given a phenol coefficient of two (2). A product with a phenol coefficient of 5 is 5 times as strong as phenol and will stand 5 times as great a dilution or 1 to 100 with water.

The average commercial user of disinfectants expects the product to do three things i.e.; disinfect, deodorize, and clean. Probably as much disinfectant is used for deodorizing as is employed for germ killing. This is especially true of pine oil disinfectants and perfumed synthetic phenol disinfectants which are widely utilized in mopping and scrubbing solutions (sometimes primarily as a deodorant).

Definitions: Generally speaking, the terms, "disinfectant," "germicide," and "bactericide" mean one and the same thing i.e.; a chemical agent which destroys disease germs or other harmful microorganisms. Disinfectants are intended for application on inanimate objects (floors, walls, operating equipment, surgical instruments, etc.). Antiseptics, on the other hand, are intended for use primarily on living tissue, for the purpose of preventing infection or growth of microorganisms. It will eliminate quite a bit of confusion in both the buyer's and seller's minds if this point be remembered — disinfectants are for use on inanimate objects, antiseptics are for use on living tissue.

Disinfectants, to be effective, must be in water solution. There is no such thing as a "dry" disinfectant. For example you can sprinkle a disinfectant in powdered form over dry bacteria and get no kill. As soon as water is added to the dry disinfectant it becomes active and will destroy the bacteria. All commercial disinfectants are diluted with water before use.

Usage: Disinfectant solutions are used for the maintenance of sanitary conditions in and around premises and also for destroying bacteria on inanimate objects.

Premises that have been occupied by diseased persons should always be cleaned and then disinfected. Hospitals make a routine practice of disinfecting the floors and all equipment daily. Bedclothing and linens are also disinfected during laundering. Special precautions are taken in the handling of any equipment coming in contact with persons afflicted with infectious disease. In the home, when a member

* Based on an article which appeared in the March, 1948, issue of *Soap and Sanitary Chemicals.*
** Not discussed in this paper.

of the family suffers from a communicable disease, objects coming in contact with that person should be disinfected to avoid spread of the disease. On the farm extra care is given to disinfection of stables, barns and hatcheries, with particular stress being laid upon sanitation around young animals.

In offices and factories adequate disinfection of the public facilities is prescribed. Toilets, urinals, floors, wash basins, lockers, etc. should all be treated daily. Disinfection of eating and drinking utensils is of prime importance and this process is more commonly known today as "sanitizing" of utensils. In a broad sense "sanitizing" means the number of bacteria present on the treated surfaces has been reduced to a point where public safety is assured.

Toxicity: The toxicity, or irritation value, of disinfectants varies greatly. Some products in dilute solution show no harmful effects on the skin, whereas others prove quite irritating and might cause severe skin disorders after prolonged exposure to the disinfectant solution. The seller of disinfectants should familiarize himself with the various types of disinfectants and their uses so as to be in a position to recommend the proper disinfectant for every purpose.

Labeling: Disinfectant labels should all bear the following government required information. Active Ingredients; Inert Ingredients; Phenol Coefficient Value; Recommendations for general use; Caution Statement; Net Contents; Name of distributor or manufacturer.

Solubility: Some disinfectants form emulsions when mixed with water and others form clear solutions. This difference is due to variation of formula during the manufacturing process. Coal tar, pine oil and a number of synthetic phenol disinfectants form milky emulsions. Cresol compounds, quaternaries and certain other synthetic phenol disinfectants produce clear solutions in water.

Odor: Coal tar disinfectants have the characteristic odor of creosote or tar. Pine oil disinfectants have the natural odor of steam distilled pine oil. Cresol compounds have a pungent "hospital" odor. Synthetic phenol disinfectants are almost odorless in natural form but can be scented with various perfumes. Quaternary ammonium compounds are almost completely odorless.

The accompanying tables have been prepared to show the types of disinfectants and some of the possible applications. This data does not limit one way or the other the possible uses of any type of disinfectant, but is merely presented as a guide.

Coal Tar Disinfectant

Also known as coal tar stock dip, coal tar animal dip, dip and disinfectant, black disinfectant, creosote dip and farm disinfectant, coal tar disinfectant has been widely used for many years, primarily for dipping of cattle and livestock and in maintenance of sanitary conditions in and around livestock quarters, barns, stables, etc. Because it was one of the first commercial disinfectants to be developed, it enjoyed wide sale throughout industrial plants for disinfection of rest rooms, urinals and as a general disinfectant for mopping of floors.

Coal tar disinfectant is also widely used in agricultural sprays for dormant spraying and is employed also to a considerable degree as a deodorant. It finds a wide use in industrial plants as a "cutting oil" disinfectant for treatment of the cutting oils used in machine shops, to prevent skin infections.

Coal tar disinfectants are manufactured from special grades of creosote oil containing fairly large quantities of tar acids. The creosote oils are blended with saponifying material to the point where the finished product forms perfect, milky emulsions when mixed with water and has the desired phenol coefficient value. These disinfectants can be manufactured with phenol coefficient figures ranging from 2 up

DISINFECTANTS
classified according to specific uses

Application	*Coal Tar*	*Pine Oil*	*Cresol pound*	*Synthetic Phenol*	*Quaternary Ammonium*
Surgical			√	√	√
Bed linens			√	√	√
Sick Room		√	√	√	√
Floors	√	√	√	√	
Toilets	√	√	√	√	
Locker Rooms		√		√	√
Foot Baths				√	√
Bedpans, urinals			√	√	√
Dental Instruments			√	√	√
Eating Utensils					√
Dishwashing				√	√
Stockyards	√		√	√	
Dog Wash	√	√			
Barns	√	√	√		
Egg Disinfecting				√	√
Animal Dip	√	√			
Rubber goods			√	√	√
Hand rinse			√		√
Mold, algae				√	√
Garbage, refuse	√	√	√	√	√
Pet Shops	√	√	√		
Rest Rooms	√	√		√	√
Animal Dip	√	√			
Closet Chemical	√	√			
Bathroom			√		√
Kitchen				√	√
Basement	√	√		√	√
Dairy Equipment					√
Food Equipment					√

These two tables are not intended to indicate the complete list of establishments using disinfectants or all the specific uses of disinfectants. Their purpose is to serve as a partial guide to those engaged in the sale of these products. Both the lists of users and applications can be greatly enlarged upon.

to as high as 30. The United States Bureau of Standards Specifications for coal tar emulsifiable disinfectants call for a maximum of 10 per cent water in the finished product.

Pine Oil Disinfectant

Pine oil disinfectant is used primarily as an institutional all-purpose disinfectant and because of its pleasant odor as compared with coal tar or cresylic disinfectant it can be employed for a number of purposes for which the other disinfectants would not normally be used. No doubt this type of disinfectant is utilized as much for its deodorant properties as for its disinfecting properties. As a result pine oil disinfectant has become an almost standard material for floor scrubbing and disinfecting, disinfection and deodorization of rest rooms, toilets, urinals, etc.

In recent years, pine oil disinfectants have become very popular for farm use, especially around poultry farms, and also in dog and cat hospitals, pet shops, etc. Hospitals too are using this type of disinfectant for certain specific purposes, but because pine oil disinfectant has no antiseptic value its use in hospitals is rather limited.

Pine oil disinfectants are manufactured by two processes (1) the cold mix process and (2) the hot-boiled process. The cold mix process is usually employed where cost is a major factor and where the phenol coefficient is not of prime importance—in other words, where the product is intended for final use more as a deodorant than as a disinfectant. The hot process used for manufacturing pine oil disinfectant is generally employed on large scale operations and insures full control over the finished product, its water content and phenol coefficient value.

The high cost of bacteriological testing makes it uneconomical for the small manufacturer of pine oil disinfectant using the cold process method to have his material tested. On the other hand, disinfectants manufactured by the hot process are generally produced in such large volume that the expense of the coefficient test can be absorbed in the over-all cost of production. The major producers of disinfectants usually maintain their own bacteriological laboratories for this purpose.

Pine oil disinfectants range in phenol coefficient values from 3 up to 7, depending upon the grade of pine oil used and the type of saponifying material in the formula. The most popular grades have a phenol coefficient of 3, 4, or 5 but lately the higher coefficient 6 and even 7 products are coming into the sales field. United States Bureau of Standards specifications call for a minimum of 60 per cent pine oil and a maximum of 10 per cent water in the finished product.

Cresol Compound

Also known as cresylic disinfectant, hospital cresol compound, cresol compound U.S.P., liquor cresolis saponatus XII, 50 per cent saponified cresylic solution. This form of disinfectant is widely used throughout the hospital, institutional and medical field. It is employed for disinfection of surgical instruments, operating equipment, contaminated linens, walls, floors, etc. and for general all-around hospital sanitation maintenance.

Large quantities of cresol disinfectant are used in the agricultural field for official disinfection of premises that have harbored diseased livestock. The United States Bureau of Animal Industry permits the use of certain grades of cresylic disinfectants for official use in disinfecting of stockyards, railroad cars and trucks carrying livestock, and sanitizing of other animal quarters where necessary. Large quantities of cresylic disinfectant are dispensed through veterinary supply houses and veterinarians for both resale and use in practice.

Cresol compounds are manufactured from either U.S.P. cresol or special grades of cresylic acid in combination with saponifying materials. Utmost care must be taken in

DISINFECTANTS
classified according to type of buyers

Where Used	*Coal Tar*	*Pine Oil*	*Cresol pound*	*Synthetic Phenol*	*Quaternary Ammonium*
Hospitals		√	√	√	√
Institutions	√	√	√	√	√
Sanitariums	√	√	√	√	√
Office Buildings		√		√	√
Factories		√		√	√
Schools		√		√	√
Tourist Camps	√	√		√	√
Packing Houses			√	√	√
Swimming Pools				√	√
Taverns		√		√	√
Clubs		√		√	√
Theatres		√		√	√
Hotels				√	√
Restaurants				√	√
Barber Shops		√		√	√
Railroads		√		√	√
Bus Lines		√		√	√
Airplanes		√		√	√
Bakeries					√
Dairies					√
Farms	√	√	√	√	√
Rest Rooms	√	√		√	√
Hatcheries	√	√	√	√	√
Animal Hospitals	√	√	√	√	√
Ship Lines	√	√	√	√	√
Milk Plants					√
Households	√	√	√	√	√
Filling Stations	√	√		√	√
Courthouses	√	√	√	√	√
Jails	√	√	√	√	√
Rendering Plants	√	√			
Stores				√	√
Stockyards	√		√	√	√
Laundries			√	√	√

the compounding of this type disinfectant because if the cresol or cresylic acid is not saponified perfectly, serious skin burns or irritation may result from use of the material.

Properly compounded disinfectants of this type form clear solutions in water and for this reason are popular with the hospital and medical trade. Instruments and small pieces of equipment dropped into the solution can easily be seen, facilitating their removal. In addition to the creosol or cresylic acid content, these compounds contain large quantities of saponifying material, greatly increasing the cleaning and detergent value of the solution.

Cresol compound U.S.P. has a phenol coefficient value of approximately 2. The cresylic disinfectant approved for official disinfection by the United States Bureau of Animal Industry has a phenol coefficient of 3 or more. Hospitals and institutions prefer cresylic disinfectant having a phenol coefficient of 5 or more. Other cresylic disinfectants manufactured from petroleum cresylic acid have considerably higher phenol coefficients, but because of their pungent, sulfur-like odor they do not lend themselves to use in the hospital field, although they are used in the agricultural field for disinfection.

Synthetic Phenol Disinfectant

This type of disinfectant is relatively new, that is to say it was first introduced commercially only about 10 years ago. During World War II it became popular rapidly because of scarcity of other disinfectants. Tremendous quantities were purchased for use by the Armed Forces. Synthetic phenol disinfectants have a wide range of use including industrial, hospital, farm, and household. In natural state they are practically odorless or have a faint trace of odor which is not disagreeable. They can be perfumed, greatly enhancing sales appeal. Some of these products form milky emulsions in water and others are made to form clear solutions.

The unperfumed disinfectant is popular with hospital users for disinfection of hospital equipment, surgical instruments, etc. and for general sanitation of premises and is also widely used in institutions where there are objections to the odor of cresol or cresylic acid. Other synthetic phenol disinfectants are proving popular through the farm, poultry and hatchery trade because of the pleasant odor.

Industrial users, including hotels, office buildings, factories, restaurants, and others seem to prefer these products because they do not give employees, visitors or customers the impression that a disinfectant is being used. This becomes rather important in connection with operation of hotels, tourist camps, and restaurants.

These disinfectants have also been found acceptable for use in foot baths for the prevention of spread of "athlete's foot" and because of their stability under actual use-conditions are becoming increasingly popular for this purpose.

Synthetic phenol germicides are manufactured for the most part from chlorinated phenols, benzolated phenols and ortho phenylphenol. Because the synthetic phenols are very potent germicides, it is not necessary to use large quantities. Usually several of the synthetic phenols are blended to produce a disinfectant with the desired properties. Certain ones are incorporated for higher phenol coefficient values, some to give better solubility, others to increase antiseptic qualities. The synthetic phenols are blended with emulsifiers to form stable concentrated disinfectants having phenol coefficient values ranging from 5 up to as high as 30 or more. Because synthetic phenol disinfectants usually contain high percentages of water, it is necessary to incorporate alcohol into the formula when they are to be shipped during freezing weather or stored under winter conditions.

Quaternary Ammonium Compounds

Also known as quaternaries, quaternary disinfectants, and sanitizers, during the past three years quaternary compounds have become increasingly popular, particularly for use in establishments serving food.

These compounds, because they are completely odorless and virtually tasteless in solution are finding use in the dairy and creamery industry, food handling establishments, restaurants, taverns and in agriculture for disinfection and sanitizing of equipment. In the hospital, medical and dental field they find use for disinfection of instruments and equipment as well as numerous other uses in industrial and household applications. Some of the quaternary compounds are being offered as sanitizing agents for chicken drinking water as well as for general sanitizing purposes in and around hatcheries.

The quaternaries are unusual in the field of disinfectants in that very minute amounts of active quaternaries exhibit pronounced germicidal activity and bacteriostatic action. Even so little as 1 part quaternary compound in 10,000 parts of water will destroy both typhoid bacteria and *Staphylococcus aureus* (pus forming organism).

Quaternaries have many features that make their use possible in fields where other disinfectants cannot be utilized. Their complete lack of odor and the fact they are nonirritating in use dilutions are greatly in their favor especially in the dairy, creamery and food handling industries. This feature is of utmost importance especially in rinsing of eating utensils where the operator's hands are constantly in and out of the solution.

Quaternaries have a pronounced wetting action and, therefore, cannot be packed in ordinary steel, iron or tin containers because of the rapid rusting of the metal that takes place upon contact. Therefore, most quaternaries are shipped in either specially lined drums or in glass containers. The powdered quaternary mixtures can, of course, be shipped in any type of moisture-proof container.

Recently a few quaternary compounds in tablet form have ap-

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Peet-Grady Method

Official Method of the National Assn. Insecticide & Disinfectant Mfrs. for Evaluating Liquid Household Insecticides.

I. INTRODUCTION

THE Peet-Grady Method was adopted as an official test in 1932, and has since been improved in certain details, all improvements have been officially accepted after satisfactory trials. This method of test is a means of determining the relative efficiency of contact insecticides dissolved in fly spray base oils. As a biological test it is subject to variations which accompany the reaction of living organisms and should be employed under the supervision of a person familiar with the biological testing of insecticides. In order to measure with reasonable tolerance the relative position of different insecticides, the test is designed to be used in conjunction with the "Official Test Insecticide" as the basis of comparison.

Two methods, or procedures, are permitted. The Small Group method is substantially the same as outlined at the time the test was adopted in 1932 while the Large Group method was officially adopted in 1938. Both methods are being used extensively, and if correctly employed, evaluation by either test may be expected to be in reasonable agreement.

II. APPARATUS

A. Reference Insecticide

The reference insecticide shall be the current Official Test Insecticide (OTI) prepared by the National Association of Insecticide and Disinfectant Manufacturers, Inc. each year. The OTI must not be diluted or changed in any manner.

B. Atomizer

The Special Atomizer No. 5004, constructed by the DeVilbiss Company, Toledo, Ohio, for the N.A.I.D.M. Standardization Committee must be used. This atomizer shall be operated with air free of oil, dust particles, or condensed moisture, and maintained at a constant pressure of 12.5 ±0.5 per sq. in. measured by a gage of not more than 30 pounds capacity or a manometer. The atomizer shall deliver 12 cc. of OTI in 24 seconds (tolerance ±1 second) and this should be checked frequently. Atomizers failing to meet this test should be repaired by the manufacturer or replaced.

C. Test Insect

The test insect shall be the house fly (*Musca domestica*, L.) reared from a strain mixed under the supervision of the N.A.I.D.M. once each year. Healthy test groups having an average age of 4 days are to be used. Individual flies in the test groups shall be not less than 3 nor more than 6 days old at the time of testing. The strain shall be of such susceptibility that the OTI will cause a mortality of from 30 to 55 per cent.

D. Fly Cages

Cages of any convenient type may be used if they provide at least 1 cubic inch of space per fly and at least 2 sides and the top are screened. It is suggested that the base be square in shape to provide maximum floor space. The floor of the cage is preferably detachable, to facilitate cleaning and inserting a paper floor covering. The cages are constructed of wood or other suitable material and 16 mesh wire screening, and are fitted with a sleeve opening, rubber membrane, or a door.

E. Rearing Room

This room may be of any convenient size constructed so as to be free from strong drafts, and maintained at a temperature of 82 ±2 degrees Fahrenheit and relative humidity of 50 ±5 per cent. It should be separate from the testing room in order to eliminate the possibility of traces of insecticide coming in contact with the test insects. Ventilation should be provided to reduce odors and gases from fermenting media.

F. Testing Room

This room may be of any convenient size capable of holding the standard Peet-Grady Chamber and permitting adequate additional space for the operator to handle the test efficiently. While conducting tests, this room shall be maintained at a temperature of 75 to 85 degrees Fahrenheit. It is suggested that relative humidity be held between 40 and 70 per cent. Since the exhaust fan of the chamber will move relatively large quantities of air, the temperature of the air entering this room should be approximately that specified above.

G. Peet-Grady Test Chamber

The Test Chamber shall be rigidly constructed of wood, metal, or other suitable material. The inner surface shall be smooth, impervious to the usual household type of insecticide, and as free from cracks, projections, ledges, etc., as possible. The chamber shall be a 6-ft. cube by internal measurements, with a tolerance of plus or minus 1 in. for any dimension. One wall shall contain a tight-fitting door large enough for a man to enter conveniently, with the interior side flush with the wall when closed. One or more of the walls, or the ceiling, shall contain an observation window, preferably on two opposite walls. Illumination is provided by means of a glass window in the ceiling above which is

placed an electric light of such intensity as to permit flies to be observed easily. An opening covered with 10-mesh wire screen shall be connected to an exhaust fan duct and the size and the location of this opening in relation to ventilation openings in the wall must be such that thorough ventilation of the chamber is obtained. Preferably, the exhaust opening should be 1 sq. ft. or larger and located in or near the ceiling. Air inlet openings may be ports approximately 6 x 6 in. in size, covered with screen on the inside and provided with tight fitting hinged covers on the outside. Four ports located near the 4 lower corners, or 8 ports located near both the 4 upper and 4 lower corners are satisfactory, but the ventilation ports should not be on the same level as the exhaust port. The entrance door may be used alone or in conjunction with the ventilation ports if a screen door is provided and thorough ventilation of the chamber is obtained. If the temperature of the air used to ventilate the chamber is lower than 80° F., heaters may be used to obtain the temperature of 82 ±2° F. required during the test period. Such heaters must be removed before a test is started. Openings shall be provided for the introduction of the insecticide; these must be so constructed and so located that uniform distribution of the spray is effected without undue ventilation of the chamber. These openings may be round 1 in. holes located not less than 6 in. or more than 12 in. from the ceiling and 18 in. from the nearest corner on each wall, or a single hole may be provided in the center of each wall 6 to 12 inches from ceiling.

H. Exhaust Fan

An exhaust fan moving not less than 1,000 cu. ft. of air through the chamber per min. shall be used to ventilate the chamber after each test. It shall be arranged with adequate piping to exhaust the chamber vapors outside of the building.

I. Insecticide Paper

Unsized, non-glazed absorbent paper, such as brown kraft or gray bogus, shall be used to cover the chamber floor. Two overlapping sheets of 36-40 in. width or one sheet of 6 ft. width may be employed. No special weight is specified although 60-80 lb. gray bogus paper has been found excellent.

J. Apparatus for Picking Up Flies

Any convenient means of picking up the paralyzed flies without injuring or appreciably disturbing them may be used. If a vacuum device is used, it must produce gentle suction, have a sufficiently large receptacle to prevent crowding of the flies, and it shall be cleaned after each test with the same materials used in cleaning the chamber.

III. PROCEDURE

A. Rearing and Handling Flies

In this procedure, eggs are transferred to media suitable for the development of larvae, the pupae are collected from the media and placed inside of cages, and the adult flies emerge and remain in these cages until the day of testing.

Larval media: The preferred containers are cylindrical glass battery jars approximately 6 in. in diameter and 9 in. high. For one jar, mix 340 gm. (12 oz.) standard dry larval media, (1) with approximately 750 cc. of an aqueous suspension containing 15 gm. moist cake yeast and 10 cc. non-diastatic Diamalt, (2). Mix thoroughly until a loose, fluffy media is obtained, transfer it to the battery jar without packing, cover with cloth and set in the insectary. The amount of suspension required for best rearing results will need be determined in each laboratory and it may be varied in order to prevent mold growth. It is suggested the media be prepared in the late afternoon of the day before egg collection.

(1) Mixed quarterly according to NAIDM specifications by the Ralston Purina Co., St. Louis, Mo., on the basis of orders received by the first of January, April, July and October, in 50 lb. bags. Terms—pay on receipt of invoice.

(2) Standard Brands Inc. products. These can be obtained from local distributors in most cases.

Eggs: Eggs are collected for a period not longer than 16 hours from food dishes or other oviposition media in cages containing mature flies not more than 8 days old. It is suggested that fresh oviposition media be placed in fly cages in the late afternoon and eggs be collected early on the following morning. After collecting the eggs they must be measured and seeded without delay. Wash the eggs in tap water at room temperature and measure 2000 eggs as accurately as possible. This may be done by allowing the eggs to settle in a calibrated pipette or graduate (0.1 cc. settled eggs contains about 700) or the eggs can be filtered and measured in calibrated pits or cells. Use 10 cc. tap water to measure and to scatter the eggs in a ½ in. pit located in the center of the jar of larval media. Cover the eggs with loose media, replace the cloth covers on the jars, and set jars in the insectary so that at least 1.5 in. separates each jar to permit free air circulation. The maximum temperature in the jar (about 3 days later) must not exceed 130° F. Under normal conditions, more than 85 per cent of the eggs should hatch within 36 hours of the time they are laid.

Pupae: Mature larvae migrate to the top portion of the media and normally all larvae will have pupated by the seventh day after seeding eggs. When this occurs, the portion of media containing pupae is loosened, poured into a shallow tray, and air dried at room temperature. An electric fan may be used to hasten drying. Pupae are separated from the dry media by sprinkling the pupae-media mixture on an inclined tray or chute set in front of an air blast such as that from an electric fan. The pupae must be handled gently and as little as possible in order to avoid injury. Under normal conditions, at least 95 per cent of flies will emerge from the pupae.

The separated pupae are thoroughly mixed and weighed in

groups as test units and each group is placed in a shallow dish which is, in turn, placed in a cage which provides at least 1 cu. in. of space per pupae. If the large group procedure is used the test unit consists of approximately 500 pupae. If the small group procedure is used, more than 500 pupae are placed in stock cages and adult flies are sampled prior to testing.

Adult Flies: Each cage is supplied daily with a dish containing at least 15 cc. of a 50 per cent dilution of milk with water for each 100 flies and so prepared as to prevent the flies from drowning. A 40 per cent formalin solution at the rate of 1/1500 delays souring of milk for several hours. Satisfactory food must be available to the flies at all times. The series of test units is kept until the second day of oviposition (usually the 14th day after the culture was prepared) when they are ready for testing. Under normal rearing conditions, at least 80 adult flies should be otained from each 100 eggs seeded.

B. Testing Flies

Before a fly spray test is started, the Peet-Grady chamber must be clean and have clean paper on the floor, all ports and openings must be closed, the temperature must be 82 ±2° F., and all windows must be equally shaded. In both procedures, only flies which are capable of flying may be liberated into the Peet-Grady chamber. In the large group procedure all flies in one cage are used in a single test, but in the small group method a sample of 100 ±5 flies is used in each test. Samples may be taken by liberating the flies directly into the chamber and continuing until about 10 per cent of flies remain in the stock cage. These are discarded. Samples may be taken also by discarding the first 100 flies and then counting 50 flies into each of a series of small cages. One hundred flies are counted into the last cage and then, starting with the next to last cage and working backwards, 50 flies are added to each. Flies remaining in the stock cage are discarded. The order of spray treatments must be randomized as discussed in section IV, paragraph 6.

After liberating the flies in the chamber, a total of 12 cc. of insecticide shall be applied within one minute, at 12.5 lb. pressure, and in equal quantities through each spray hole. The nozzle of the atomizer shall be oscillated slowly in a horizontal plane to avoid spraying walls and ceilings and to effect uniform distribution of the spray. The chamber is kept closed at a constant temperature in the range of 82 ±2° F. for 10 min. from the time the spraying is started. At the end of 10 min. the ports are opened and the chamber is ventilated by means of the exhaust fan while the flies are collected.

The paralyzed flies are picked up and transferred immediately to clean cages meeting the specifications of section II, paragraph D. These flies may be counted when they are picked up or later, depending upon which time is most convenient. During the subsequent 24-hr. recovery period, the cage is placed in the rearing room and supplied with an adequate quantity of a 5 per cent sugar solution, arranged so that the top of the dish is not more than ¾ inch above the floor of the cage and flies cannot drown in it. A gauze-wrapped ball of cotton saturated with 5 per cent sugar solution is also satisfactory.

The unparalyzed flies in the chamber at the end of the 10-min. exposure period must be counted and discarded.

After a test is completed, all toxic residues must be removed from the chamber. The paper on the floor must be renewed and the inside walls and ceiling must be cleaned thoroughly. Wiping with a clean cloth saturated with alcohol containing 10 per cent acetone or washing with soap and water will remove a number of toxic residues. However, special cleaning precautions may be required after a test with a new chemical compound in order to remove its toxic residue.

C. Assembling the Data

The number of unparalyzed flies must be counted and recorded at the end of the 10-min. exposure period. The dead flies are counted 24 hrs. (±1 hr.) later, preferably by removing them from the recovery cage. Only flies that show no sign of life upon being touched may be counted as dead. If paralyzed flies were counted as they were collected, the sum of paralyzed and unparalyzed flies yields the total flies in the test. If paralyzed flies were not counted as collected, the recovered flies are killed by placing the cage in an oven at 170° F. for a few minutes, after which they are counted. The sum of recovered and dead flies yields the paralyzed flies and this sum added to the unparalyzed flies yields the total flies used in the test. The mortality is the per cent dead of total flies and the knockdown is the per cent paralyzed of total flies.

IV. CONDITIONS FOR OFFICIAL EVALUATION

1. The tests shall be conducted in accordance with the procedure previously described.
2. At least 2 cultures of flies shall be used in making an official evaluation.
3. Cages showing a combined mortality and crippling greater than 8 per cent on the day of test shall not be used.
4. An unknown insecticide to be officially rated shall have a knockdown percentage equal to that of the OTI with a tolerance of minus 2.
5. The kill by the OTI shall fall between 30 and 55 per cent in all tests. The toxicity of an unknown spray shall be reported by a grade letter, obtained by subtracting the average kill by the OTI from the average kill by the unknown spray and comparing this result with the following figures:

Grade Letter		*Kill Difference*
AA	:	+16 or greater
A	:	+6 to +15
B	:	+5 to −5

6. In the small group procedure no more than 2 unknown

samples may be tested in conjunction with one OTI in any one series. Ten tests are run on the OTI and on each of the unknowns in parallel; that is, test each spray the same number of times on flies of the same culture and test all sprays the same number of times on any one day. The samples of a series must be randomized in the order of testing. For example, number the samples and the OTI, and test them in the order 1, 2, 3; 2, 1, 3; 3, 2, 1, etc., until each has been tested ten times. After the mortality data are obtained, calculate the average kills and determine the difference between that of the unknowns and that of the OTI. In order for these differences to be valid, the standard error of the mean difference between the average OTI kill and the average unknown kill must be less than 3. If it is 3 or greater, the test results were too variable and to make the results valid, additional paired tests must be run to reduce the figure to a value less than 3. The following example illustrates the arrangement of test data and calculations described in the preceding paragraphs. When two unknown samples and the OTI are tested in series, the first table should consist of differences between Sample No. 1 and the OTI, the second table should show differences between Sample 2 and the O.T.I.

6. *Small Group Method*

Pair	Culture	Date	% Dead		Difference[1]	Deviation[2]	Deviation Squared
			Sample 1	OTI			
1	C	3-8	58	50	+8	+4	16
2	C	8	62	55	+7	+3	9
3	C	8	60	54	+6	+2	4
4	C	8	52	52	+0	—4	16
5	C	8	49	46	+3	—1	1
6	E	9	61	54	+7	+3	9
7	E	9	46	49	—3	—7	49
8	E	9	53	51	+2	—2	4
9	E	9	57	54	+3	—1	1
10	E	9	53	46	+7	+3	9
			55. 1M	51. 1M	+4 MD	0	118 Sum d²

[1] Sample 1 kill minus OTI kill.
[2] Deviation from the mean difference (MD).

The mean difference (MD) between Sample 1 kill and the OTI kill is 4.0

$$\text{The standard error of MD} = \sqrt{\frac{\text{Sum } d^2}{n-1}} \Big/ \sqrt{n} = \sqrt{\frac{118}{9}} \Big/ \sqrt{10} = 1.14$$

1.14 is less than 3, thus indicating the test has been properly conducted. The letter n (in formula above) denotes the number of paired tests. This number is always 10 except when it is necessary to run additional tests to reduce the standard error of the mean difference to 3 or less.

The percentage kill of Sample 1 minus the percentage kill of OTI is +4, therefore, Sample 1 is a "B" grade insecticide.

7. *Large Group Method*

Cage No.	CULTURE E Nov. 21		CULTURE F Nov. 23	
	Sample	% Dead	Sample	% Dead
1	OTI	43	2	69
2	1	44	3	65
3	3	57	OTI	54
4	2	63	3	58
5	3	52	1	45
6	OTI	47	2	77
7	1	39	1	54
8	2	71	OTI	46

Sample	Mortalities	Average	Rating	Grade
OTI	43, 47, 54, 46	47.5		
1	44, 39, 45, 54	45.5	— 2.0	B
2	63, 71, 69, 77	70.0	+22.5	AA
3	57, 52, 65, 58	58.0	+10.5	A

7. In the Large Group procedure the evaluation is carried out as follows:

The evaluation is based on the difference in mortality of the OTI and the unknown as determined by a minimum of 4 tests. The order of testing shall be random and replicated OTI tests on any culture shall agree within 10 points. The accompanying example illustrates one arrangement of testing, the computation of the test results, and the grading of the sprays.

Federal Specifications

General and detailed requirements as specified in the Standard Stock Catalogue of the U.S. Federal Specifications Board.

Powdered High-Titer Built Soap

(Proposed Federal Specification)

The soap covered by this specification shall be of one type as hereinafter specified: *Composition.*—The composition of the soap shall be as shown in Table I. *Form.*—The soap shall be a homogeneous, uniform mixture of soap and alkalies in powdered form. It shall be readily soluble. *Color.*—The soap shall have a light uniform color. *Odor.*—The odor shall not be objectionable in the soap as received, or in a hot water solution. The soap shall not leave an objectionable odor on the objects after using with a water solution of the soap and rinsing thoroughly with hot water. If desired, the odor of the material under the above conditions shall conform to the odor of the sample approved by the bureau concerned. The approved sample shall be kept in an airtight container for comparison with the sample submitted for inspection.

Table I. — Composition

	Maximum	*Minimum*
	Per Cent	
Moisture and matter volatile at 105°C.	16	
Free alkali, calculated as sodium hydroxide, NaOH	0.2	
Alkaline salts, calculated as sodium carbonate, Na_2CO_3		21 per cent
Matter insoluble in water	1.0	
Chloride (calculated as sodium chloride)	0.5	
Anhydrous soap		56 per cent
Titer of the mixed fatty acid prepared from the soap		39°C.
Residue retained on a No. 12 sieve	1.5	
Passing through a No. 140 sieve	18.0	
Rosin	None	
Unsaponifiable matter	1.0	
Starch	None	

Chip Soap (P-S-566a)

Chip soap shall be a soap in chip form made from soda and fats or fatty acids, without rosin, as free as possible from water and all substances other than true soap, of a light uniform color, free from disagreeable odor, and suitable for laundering and other washing, cleaning and scouring processes with soft water, when the presence of alkaline salts is not desirable.

Moisture and matter volatile at 105° C. shall not exceed 10 per cent. The sum of free alkali, total matter insoluble in alcohol, and sodium chloride shall not exceed 4 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.2 per cent. Matter in-

ONLY the essential requirements of these government specifications have been extracted in our summary. Copies of the complete specifications, including details as to packaging, methods of analysis, etc., are available through the U. S. Federal Specifications Board. The specifications listed are the latest versions as of the date of compilation of this edition of the Blue Book. Readers are cautioned, however, that further changes are being made periodically, and that the latest amended versions of all specifications should be consulted in filling government orders.

soluble in water shall not exceed 1.0 per cent. Anhydrous soap shall be not less than 85 per cent. Titer of the mixed fatty acids prepared from the soap must be not less than 39° C. No rosin shall be present.

Cake Grit Soap (P-S-571a)

Cake grit soap shall be of the following types as specified: Type A—for fine work, such as glass and enamel; Type B—for scouring and scrubbing.

Type A—

Moisture and matter volatile at 105° ±2° C. shall not exceed 4 per cent. Alkali as alkaline salts (total alkalinity of matter insoluble in alcohol), calculated as sodium carbonate (Na_2CO_3), shall not exceed 1 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Insoluble siliceous material shall be not less than 88 per cent nor more than 93 per cent. The insoluble siliceous material shall consist of not less than 90 per cent of ground feldspar. All of the insoluble siliceous material shall pass through a No. 100 sieve, and the residue retained on a No. 200 sieve shall not exceed 5 per cent. Sugar, and foreign matter shall not be present. Anhydrous soda soap shall be within 1 per cent of the difference between 100 and the sum of the matter volatile at 105° ±2° C., insoluble siliceous material, and alkali as alkaline salts. The cakes shall be well compressed and of a satisfactory degree of friability, which shall not be materially affected or lessened after immersion in or contact with water. The material shall not scratch glass or enameled surfaces. The material shall be unscented and shall be of a light gray or white color.

Type B—

Moisture and matter volatile at 105° ±2° C. shall not exceed 5 per cent. Alkali as alkaline salts (total alkalinity of matter insoluble in alcohol), calculated as sodium carbonate (Na_2CO_3), shall not exceed 3 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Insoluble siliceous material shall not be less than 75 nor more than 85 per cent. The insoluble siliceous material shall be mainly quartz, and it all must pass through a No. 100 sieve. Sugar, and foreign matter shall not be present. Anhydrous soda soap shall be within 1 per cent of the difference between 100 and the sum of the matter volatile at 105° ±2° C., insoluble siliceous material, and alkali as alkaline salts. The cakes shall be well compressed and of a satisfactory degree of friability, which shall not be materially affected or lessened after immersion in or contact with water. The material shall be unscented and shall be of a light gray or white color.

Detail Requirements for Laundry Chip Soap

	Maximum Per Cent	*Minimum Per Cent*
Moisture and matter volatile at 105° C.	15.0	....
Sum of free alkali or free acid, total matter insoluble in alcohol, and sodium chloride	12.0	....
Free alkali, calculated as sodium hydroxide (NaOH)	.5	....
Free acid, calculated as oleic acid	.5	....
Matter insoluble in water	1.0	....
Chloride, calculated as sodium chloride (NaCl)	1.0	....
Rosin	20.0	....
Anhydrous soap	....	72.0

Hand Grit Soap (P-S-576a)

Hand-grit soap shall be a cake soap containing clean, finely divided insoluble siliceous matter, as free as possible from water, uncolored, mildly perfumed unless otherwise specified, and well compressed in firm, smooth cakes.

Matter volatile at 105° C. shall not exceed 25 per cent. Total alkalinity of matter insoluble in alcohol (alkaline salts), calculated as sodium carbonate (Na_2CO_3), shall not exceed 1 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Insoluble siliceous material shall be not less than 25 nor more than 35 per cent. The insoluble siliceous material shall not yield more than 2 per cent of residue retained on a No. 100 sieve and not more than 10 per cent of residue retained on a No. 200 sieve. Sugar, and foreign matter shall not be present. Rosin shall not exceed 5 per cent. Anhydrous soap shall be not less than 35 per cent. The percentage of moisture and volatile matter will be computed on the basis of the soap as received, but all other constituents will be calculated to the basis of material containing 25 per cent of matter volatile at 105° C. Unless otherwise specified, each cake shall weigh not less than 8 ounces nor more than 16 ounces.

Laundry Chip Soap (Rosin Type) (P-S-581)

Laundry chip soap shall be a well-made, uniformly mixed soap in chip form, made from soda and fats or fatty acids, with no excessive

Detail Requirements for Granulated Laundry Soap

	Maximum Per Cent	*Minimum Per Cent*
Moisture and matter volatile at 105° C.	10.0	....
Sum of free alkali or free acid, total matter insoluble in alcohol, and sodium chloride	14.0	....
Free alkali, calculated as sodium hydroxide (NaOH)	.5	....
Free acid, calculated as oleic acid	.5	....
Matter insoluble in water	1.0	....
Chloride, calculated as sodium chloride (NaCl)	1.0	....
Rosin	20.0	....
Anhydrous soap	....	75.0
Residue retained on a No. 12 sieve	2.0	....

proportion of rosin and a moderate amount of matter insoluble in alcohol, shall be of a uniform color, and shall be suitable for use with moderately hard water for general cleaning and laundry purposes. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The material shall not leave an objectionable odor on dishes or other objects after washing with a water solution of the soap and rinsing thoroughly with hot water. If desired, the odor of the material under the above conditions shall conform to the odor of a sample mutually agreed upon by buyer and seller.

The material shall conform to the detail requirements listed in the table on facing page.

Granulated Laundry Soap (Rosin Type) (P-S-583)

Laundry granulated soap shall be a well-made, uniformly mixed soap in granulated or powdered form, made from soda and fats or fatty acids, with no excessive proportion of rosin and a moderate amount of matter insoluble in alcohol, shall be of a uniform color, and shall be suitable for use with moderately hard water for general cleaning and laundry purposes. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The material shall not leave an objectionable odor on dishes or other objects after washing with a water solution of the soap and rinsing thoroughly with hot water. If desired, the odor of the material under the above conditions shall conform to the odor of a sample mutually agreed upon by buyer and seller. Detail requirements listed in table on facing page.

Ordinary Bar Laundry Soap (P-S-591a)

Ordinary laundry bar soap shall be a well-made, uniformly mixed laundry or common soap, made from soda and fats or fatty acids, with no excessive proportion of rosin and a moderate amount of matter insoluble in alcohol, and shall be suitable for use with moderately hard water for general cleaning and laundry purposes.

Odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The materials shall not leave an objectionable odor on dishes or other objects after washing with a water solution of the soap and rinsing thoroughly with hot water. If desired, the odor of the material under the above conditions shall conform to the odor of a sample mutually agreed upon by buyer and seller. The mutually agreed upon sample shall be kept in an air-tight, closed container for comparison with samples from deliveries.

Moisture and matter volatile at 105° C. shall not exceed 36 per cent. The sum of free alkali or free acid, total matter insoluble in alcohol and sodium chloride, shall be not less than 2 per cent nor more than 11.0 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.5 per cent. Free acid, calculated as oleic acid, shall not exceed 0.5 per cent. Matter insoluble in water shall not exceed 1 per cent. Chloride calculated as sodium chloride (NaCl), shall not exceed 1.0 per cent. Rosin shall not exceed 25 per cent. Anhydrous soap shall be not less than 52 per cent. The percentage of moisture and volatile matter will be computed on the basis of the soap as received, but all other constituents will be calculated on the basis of an assumed moisture and volatile matter content of 36 per cent.

Powdered Laundry Soap (P-S-596a)

Powdered soap shall be a soap in powdered form made from soda and fats or fatty acids, without rosin, as free as possible from water and all substances other than true soap, of a light uniform color, free from disagreeable odor, and suitable for laundering and other washing, cleaning and scouring processes with soft water, when the presence of alkaline salts is not desirable.

Moisture and matter volatile at 105° C. shall not exceed 6 per cent. The sum of free alkali, total matter insoluble in alcohol, and sodium chloride shall not exceed 4 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.2 per cent. Matter insoluble in water shall not exceed 1.0 per cent. Anhydrous soap shall be not less than 89 per cent. Titer of the mixed fatty acids prepared from the soap shall be not less than 39° C. Residue retained on a No. 12 sieve shall not exceed 1.5 per cent. Rosin, none. The percentage of moisture and volatile matter will be computed on the basis of the soap as received, but all other constituents will be calculated on the basis of material containing 6 per cent of volatile matter.

Liquid and Paste Soap for Automobile, Floor and General Cleaning (P-S-598)

Soap covered by this specification shall be of two types. Type I—Liquid. Type II—Paste. Type I shall be a uniform liquid soap made solely from whole neutral vegetable oils and potash. Type II shall be a uniform gel or paste soap made solely from whole neutral vegetable oils and potash.

Type I shall be soluble in soft water and when diluted with water shall act as a cleaner. The flash point shall be above its boiling point. It shall not contain any solvents or oils that will damage floor surfaces. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The material shall not leave an objectionable odor on surfaces after washing with a water solution of the soap and rinsing thoroughly with plain water.

Type II. Paste soap.—The material shall be a uniform translucent, firm gel or paste of a yellowish-white to brownish-yellow color. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The material shall not leave an objectionable odor on surfaces after washing

with a water solution of the soap and rinsing thoroughly with plain water. *Moisture (by distillation method, using toluol instead of xylol)*—shall not exceed 55 per cent. Deliveries which yield more than 55 per cent of moisture shall be rejected without further test. The soap shall dissolve readily to give a 0.15- to 0.2 per cent solution, using distilled water at 15.5 to 20° C. (60° to 68° F.). The solution so prepared shall yield a good suds. A solution of the soap in soft water shall act as a cleaner and shall not damage surfaces on which it is used. When specified, each bidder shall submit with his proposal a 1-quart sample of the soap that he proposes to furnish, packed in a screw-top glass jar, to show odor, color, and consistency. The sample so furnished shall be kept for comparison with samples from deliveries. The material of each type shall not become rancid or otherwise deteriorate when kept in a closed container.

The material shall conform to the detail requirements for the type indicated as listed in the accompanying table. Percentages are by weight.

Computation (type II only).—The percentage of moisture shall be computed and reported by the testing laboratory on the soap as received. The percentages of all other constituents shall be calculated and reported on an assumed moisture content of 50 per cent.

Soap; Low-Titer (P-S-600a)

Low-titer soap shall be of the following types and classes:

Type I—Bar form
Type II—Other forms
Class A—Granular
Class B—Powdered
Class C—Flake

The soap shall have a uniform color. The odor shall not be objectionable in the soap as received or in a solution of the soap in water at 125° to 130° F. The material shall not leave an objectionable odor on objects after washing with a water solution of the soap and rinsing thoroughly with hot water. If desired, the odor of the material under the above conditions shall conform to the odor of a sample mutually agreed upon by buyer and seller. When specified, each bidder shall submit with his proposal a sample of the material that he proposes to furnish, to show color, odor, and condition.

Low-titer soap shall conform to detail requirements as listed in the table below.

Detail Requirements (P-S-598)

	Type I		Type II	
	Min.	Max.	Min.	Max.
Moisture (toluol distillation method) (per cent)	..	..	..	55
Total matter insoluble in alcohol (per cent)	..	0.5	..	1.0
Free alkali, calculated as potassium hydroxide (KOH) (per cent)	..	.05	..	.1
Free acid, calculated as oleic acid (per cent)	..	.1	..	.2
Alkaline salts, calculated as potassium carbonate (K_2CO_3) (per cent)	..	.1	..	.2
Matter insoluble in distilled water (per cent)	..	.1	..	.2
Chloride, calculated as potassium chloride (KCL) (per cent)	..	.3	..	.5
Unsaponified and unsaponifiable matter (per cent)	..	.4	..	.8
Anhydrous soap, calculated as potash soap (per cent)	20	..	43	..
Total sodium compounds, calculated as NA_2O (per cent)	..	.2	..	.5
Glycerol (per cent)	1.8	..	4	..
Iodine number (WIJS) of mixed fatty acids derived from the soap	100	150	100	150
Acid number of mixed fatty acids derived from the soap	195	205	195	205
Rosin	..	None	..	None
Sugar	..	None	..	None

Potash Linseed Oil Soap, Liquid and Paste, for Floor and General Cleaning (P-S-603)

Potash-linseed-oil soap shall be of two types. Type I—Liquid. Type II—Paste. Type I shall be a uniform liquid soap made solely from whole neutral raw linseed oil and potash. Type II shall be a uniform, translucent, firm gel or paste soap made solely from whole neutral raw linseed oil and potash.

Type I shall be soluble in soft water and when diluted with water shall act as a cleaner. The flash point shall be above its boiling point. It shall not contain any solvents or oils that will damage floor surfaces. The odor shall not be objectionable

Detail Requirements for Low Titer Soap

	Type I		Type II	
	Max.	Min.	Max.	Min.
Matter volatile at 105° ± 2° C. (per cent)	35.0	..	7.0	..
Sum of free alkali or free acid, total matter insoluble in alcohol, and sodium chloride (per cent)	2.0	..	9.0	..
Water soluble sodium silicate (calculated as in Spec P-S-536a) (per cent)	0.4			
Free alkali, calculated as sodium hydroxide (NaOH) (per cent)	0.1	..	0.4	..
Free acid, calculated as oleic acid (per cent)	0.1	..	None	..
Matter insoluble in water (per cent)	.5	..	1.5	..
Rosin	None	..	None	..
Sugar	None	..	None	..
Copper (parts per million)	10.0			
Unsaponified saponifiable matter (per ent)	1.0	..	1.0	..
Anhydrous soap (per cent)	..	64.0	..	81.0
Titer of the mixed fatty acids prepared from the soap	28° C	..	22° C	..
Iodine number (Wijs) of the mixed fatty acids prepared from the soap	90.0	74.0	90.0	74.0
Acid number of the mixed fatty acids prepared from the soap	205.0	180.0	205.0	180.0
Residue retained on a No. 12 sieve (class B only) (per cent)	..	..	1.5	..

in the soap as received or in a hot solution of the soap in water. The material shall not leave an objectionable odor on surfaces after washing with a water solution of the soap and rinsing thoroughly with plain water.

Type II—Paste soap shall be a uniform translucent firm gel or paste soap of a yellowish-white to greenish-brown color. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The material shall not leave an objectionable odor on surfaces after washing with a water solution of the soap and rinsing thoroughly with plain water. *Moisture (by distillation method, using toluol instead of Xylol)* shall not exceed 55 per cent. Deliveries which yield more than 55 per cent of moisture shall be rejected without further test. The soap shall dissolve readily to give a 0.15- to 0.2-per cent solution, using distilled water at 15.5° to 20° C. (60° to 68° F.). The solution so prepared shall yield a good suds. A solution of the soap in soft water shall act as a cleaner and shall not damage floor surfaces. When specified, each bidder shall submit with his proposal a 1-quart sample of the soap that he proposes to furnish, packed in a screw-top glass jar, to show odor, color, and consistency. The sample so furnished shall be kept for comparison with samples from deliveries. The material of each type shall not become rancid or otherwise deteriorate when kept in a closed container.

The material shall conform to the detail requirements for the type indicated as listed in the accompanying table. Percentages are by weight.

Computation (type II only).—The percentage of moisture shall be computed and reported by the testing laboratory on the soap as received. The percentages of all other constituents shall be calculated and reported on an assumed moisture content of 50 per cent.

Detail Requirements for Potash Linseed Soap

	Type I		Type II	
	Min.	Max.	Min.	Max.
Moisture (toluol distillation method) (per cent)	..	..	..	55
Total matter insoluble in alcohol (per cent)	..	0.5	..	1.0
Free alkali, calculated as potassium hydrate (KOH) (per cent)	..	.05	..	.1
Free acid, calculated as oleic acid (per cent)	..	.1	..	.2
Alkaline salts, calculated as potassium carbonate (K_2CO_3) (per cent)	..	.1	..	.2
Matter insoluble in distilled water (per cent)	..	.1	..	.2
Chloride, calculated as potassium chloride (KCL) (per cent)	..	.3	..	.5
Unsaponified and unsaponifiable matter (per cent)		.4	..	1.0
Anhydrous soap, calculated as potash soap (per cent)	20	..	43	..
Total sodium compounds, calculated as NA_2O (per cent)	..	.2	..	.5
Glycerol (per cent)	1.8	..	4	..
Iodine number (WISJ) of mixed fatty acids derived from the soap	175	..	175	..
Acid number of mixed fatty acids derived from the soap	190	205	190	205
Sugar	..	None	..	None

Soap Powder (P-S-606a)

Soap powder shall be a uniform mixture of soap and sodium carbonate, and/or other alkaline salts in powdered form. It shall be readily soluble in tepid water, shall contain no free caustic alkali or inert fillers, and shall be free from objectionable odor.

Anhydrous soap shall be not less than 15 per cent. Alkaline salts, calculated as sodium carbonate (Na_2CO_3) shall be not less than 30 per cent. The sum of anhydrous soap and alkaline salts, calculated as sodium carbonate shall be not less than 55 per cent.

Salt Water Soap (P-S-611a)

Salt-water soap shall be a soap well made from pure coconut oil fatty acids, pure palm kernel oil fatty acids, or a mixture thereof, and soda. It shall be entirely soluble in both sea water and fresh water and shall make a suitable lather. The soap shall be light in color and free from objectionable odor. The material shall conform to the detail requirements listed in the table below.

The percentage of moisture and volatile matter shall be computed, and reported by the testing laboratory, on the soap as received. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 55%.

White Floating Toilet Soap (P-S-616a)

Floating toilet soap shall be a cake soap without objectionable odor, thoroughly saponified, and so prepared as to float on water.

Moisture and matter volatile at 105° C. shall not exceed 34 per cent. The sum of free alkali, total matter insoluble in alcohol, and sodium chloride shall not exceed 2.0 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Chloride,

Detail Requirements for Salt Water Soap

	Maximum	Minimum
Moisture and matter volatile at 105°C.....per cent	55.0	..
Total matter insoluble in alcohol.....per cent	3.0	2.0
Free alkali, calculated as sodium hydroxide (NaOH).....per cent	.5	..
Chloride, calculated as sodium chloride (NaCl).....per cent	3.0	2.5
Anhydrous soap .....per cent	..	40.0
Matter insoluble in water.....per cent	.5	..
Acid number of the mixed fatty acids prepared from the soap.....	..	240
Sugar, and foreign matter.....	None	..
Rosin	None	..

calculated as sodium chloride (NaCl), shall not exceed 1 per cent. Matter insoluble in water shall not exceed 0.2 per cent. Anhydrous soap shall be not less than 62 per cent. Acid number of the mixed fatty acids prepared from the soap, shall be not less than 212. Rosin, sugar and foreign matter shall not be present. The percentage of moisture and volatile matter will be computed on the basis of the soap as received, but all other constituents will be calculated on an assumed moisture and volatile matter content of 34 per cent.

Liquid Toilet Soap (P-S-618a)

Liquid toilet soap shall be a clear solution of pure vegetable oil potash (or potash and soda) soap with or without glycerol or alcohol, suitably perfumed, and free from all foreign matter. It shall quickly form a satisfactory lather and have no injurious effect and leave no objectionable odor on the skin.

The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The material shall not leave any objectionable odor on the skin or other surfaces after washing with a water solution of the soap and rinsing thoroughly with plain water. Unless otherwise specified each bidder shall submit with his proposal a one-quart sample, placed in a screw-top glass jar, to show odor, color, and consistency. The sample so furnished shall be kept for comparison with samples from deliveries.

The material shall be a clear solution, free from objectionable odor, other than from coconut oil, and shall form a satisfactory lather. Total anhydrous soap shall be not less than the equivalent of 15 per cent potash soap. Total matter insoluble in alcohol shall not exceed 0.5 per cent. Free alkali calculated as potassium hydroxide (KOH) shall not exceed 0.05 per cent. Chloride calculated as potassium chloride (KCl) shall not exceed 0.3 per cent. More than traces of sulphates and sugar shall not be present. All constituents shall be calculated on the basis of the original sample.

Milled Toilet Soap (P-S-621a)

Milled toilet soap shall be a high grade, milled cake soap as free as possible from water, either colored or uncolored, and mildly perfumed unless otherwise specified, thoroughly saponified, well compressed in firm, smooth cakes of a size and shape specified in the contract. It should lather freely when used with cold, soft water.

Moisture and matter volatile at 105° C. shall not exceed 15 per cent. The sum of free alkali, total matter insoluble in alcohol, and sodium chloride shall not exceed 1.7 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Matter insoluble in water shall not exceed 0.4 per cent. Unsaponified saponifiable matter shall not exceed 0.3 per cent. Anhydrous soap shall be not less than 83 per cent. Sugar and foreign matter shall not be present. Rosin, none. The percentage of moisture and matter volatile will be computed on the basis of the soap as received, but all other constituents will be calculated on the basis of material containing 15 per cent of volatile matter.

Powdered Toilet Soap (for (Dispensers) (P-S-626a)

Powdered toilet soap for use in dispensers shall be a thoroughly saponified soap in powdered form, made from soda and fats; shall be uncolored and mildly perfumed, unless otherwise specified; shall be a uniform, free-flowing, noncaking powder; and shall lather freely when used with cold soft water.

The material shall be a uniform powder and shall be freeflowing and noncaking when used in a dispenser conforming to type III or IV of Federal Specification FF-D-396. It shall lather freely when used with soft water at room temperatures. Shall be mildly perfumed, unless otherwise specified. If desired, shall conform to the odor of a sample mutually agreed upon by buyer and seller. The mutually agreed upon sample shall be kept in an airtight, closed container for comparison with samples from deliveries.

Shall be uncolored, unless otherwise specified. Matter volatile at 105°±2° C. shall not exceed 6 per cent. The sum of free alkali, total matter insoluble in alcohol, and sodium chloride shall not exceed 2.0 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Matter insoluble in water shall not exceed 0.2 per cent. Anhydrous soda soap shall be not less than 91 per cent. Rosin, sugar, and foreign matter shall not be present. The material shall meet the following fineness requirements:

Retained on—	*Minimum Per Cent*	*Maximum Per Cent*
No. 12 sieve.....	—	1.5
No. 45 sieve.....	50	—
No. 100 sieve.....	90	—

Toilet Soap-Borax Compound (for Dispensers) (P-S-628)

Soap and borax compound for use in dispensers shall be a uniform mixture of a thoroughly saponified soap and borax ($Na_2B_4O_7 \cdot 10\ H_2O$); shall be free from added coloring matter and mildly perfumed, unless otherwise specified; shall be a uniform free-flowing, noncaking powder, when used in a dispenser conforming to Type III or IV of Fed. Spec. FF-D-396. It shall lather freely when used with soft water at room temperature. Anhydrous soda soap shall be not less than 23 per cent and not more than 27 per cent. Borax, calculated as $Na_2B_4O_7 \cdot 10\ H_2O$, shall be not less than 72 per cent and not more than 77 per cent. The pH of a 1 per cent solution by weight of the material in distilled water shall be not less than 9.0 and not more than 10.2 at 25° C., using a glass electrode. Matter insoluble in water shall not exceed 0.2 per cent. Sugar, and foreign matter shall not be present. Rosin none. The material shall meet the following fineness requirements:

Retained on—	*Minimum Per Cent*	*Maximum Per Cent*
No. 12 sieve.....	—	0
No. 45 sieve.....	5	—
No. 100 sieve.....	45	—

Caustic Soda for Cleaning (P-S-631a)

Caustic soda shall be of but one grade. It shall be furnished in airtight containers (13-ounce cans or drums) in flake, ground, or lump form, as specified in the invitation for bids. It shall conform to the following detail requirements:

Sodium hydroxide (NaOH) shall be not less than 95 per cent.

Carbonate, calculated as sodium carbonate (Na_2CO_3), shall not be more than 2 per cent.

Laundry Soda (Washing Soda) (P-S-641a)

Laundry soda shall be a white uniform powder composed of sodium carbonate and sodium bicarbonate. It shall conform to the following detail requirements:

	Maximum Per Cent	*Minimum Per Cent*
Total alkalinity, calculated as Na_2O	43	39
Sodium bicarbonate ($NaHCO_3$)	50	35
Sodium carbonate (Na_2CO_3)	50	35
Matter insoluble in water	.1	—

Cleaner Containing Synthetic Detergent for Painted Surfaces (P-C-431)

Cleaner for painted surfaces shall be on one grade and of the following types:

Type 1.—Powder
Type II.—Flake
Type III.—Liquid
Type IV.—Paste

The cleaner shall be a uniform, homogeneous product, free from any objectionable odor, and consisting essentially of synthetic organic detergents. It shall contain no abrasives or fatty acid soaps and shall not be irritating to the skin.

General requirements.—Each bidder shall submit a sample of the cleaner he will deliver for inspection and testing. The cleaner shall be satisfactory for use in cleaning operations with soft, hard or sea water. The manufacturer shall supply with each package a complete set of clear, concise instructions for the use of the cleaner. The cleaner shall be stable and not lose effectiveness or otherwise deteriorate when stored in closed containers at normal temperatures. pH value of 1.0 per cent distilled water solution (by weight) of the cleaner shall be not less than 5.5 nor more than 10.0. The cleaner shall be free-rinsing. A 0.2 per cent (by weight) solution of the cleaner shall not cause greater than one-half loss in specular gloss of painted surfaces caused by a 0.2 per cent solution of trisodium phosphate. A solution of 50 grams of cleaner per liter, in distilled or sea water, shall exhibit a cleaning efficiency of not less than 80 per cent.

Cleaning Compound (P-C-565) Soap—Abrasive Type for painted surfaces

The product is to be without objectionable odor, and not harmful to the hands. The seller must label each container with directions for use. The product must be capable of being applied either with a damp cloth or sponge. It is to be a uniform soft paste, meeting the following requirements.

Matter volatile at 105°C. shall not exceed 65% by weight. It shall contain not more than 0.1% by weight of free alkali calculated as NaOH. It shall contain not more than 0.5% by weight free acid calculated as oleic acid. Alkaline salts calculated as Na_2CO_3 shall not exceed 5% by weight. Insoluble siliceous matter shall not be less than 25% nor more than 50% by weight. All of the insoluble siliceous matter shall pass through a No. 80 sieve; and not more than 15% shall be retained on a No. 200 sieve. Anhydrous soap shall be not less than 3.5% by weight.

A special test is provided for determination of abrasive properties. A thin film of the compound is spread over a clear microscopic slide. Another slide is placed over the film and the two slides pressed together, using a slight pressure, and rubbing one slide over the other with a rotary motion. The slides when wiped clean of the compound shall not be scratched.

Grease-Cleaning Compound Solvent-Emulsion Type (P-C-576)

Grease-cleaning compound shall be furnished in two types, Type I, non-phenolic, and Type II, phenolic, The compound shall be uniform liquid and shall be suitable for the purpose intended.

Type I, nonphenolic

Flash point shall be not less than 200° F. (open cup). The compound shall have a neutralization number of not more than 8 (mg. of KOH to neutralize 1 gm. of compound). The compound shall have no free alkali. The pour point shall be not more than 35°F. The loss in weight shall be not more than 10 per cent after a 24-hour period. Shall be free from phenols. Physical and performance tests covering stability of emulsion, solubility in kerosene and in water, etc., are also provided.

Type II, phenolic

As above except that the material is to contain not less than 15 per cent and not more than 25 per cent phenols by volume, and must pass a phenol (C_6H_5OH) limitation test.

Mechanics' Paste, Powder And Hand Detergents (P-D-221a)

Detergents for mechanics' use shall be of three types: Type I —hand grit paste detergent; Type II — hand scouring powder with mineral abrasive and Type III — hand scouring powder with vegetable abrasive. Type I shall be a uniform mixture of detergents and mineral abrasives in paste form. Type II shall be a uniform mixture of detergents and mineral abrasives in powder form. Type III shall be a uniform mixture in powder form of clean sawdust or cornmeal, thoroughly saponified soap and/or act-

ive salt-free synthetic detergents, and pine oil. The detergent shall not contain any mineral abrasives such as lava, pumice, sand, quartz, etc. Sawdust, if used, shall be of a granular nature and free from splinters.

Detergents for mechanics' use shall be satisfactory for removing oil, grease, paint, printing inks and other occupational soil from the hands without harmful effect on the skin. They shall lather freely when used with fresh water at room temperature. Detergents in powder form shall be free-flowing and non-caking when used in dispensers conforming to the requirements of Federal Specification FF-D-396 for types III and IV.

The odor shall not be objectionable. If desired, it shall conform to the odor of a sample mutually agreed upon by buyer and seller. The mutually agreed upon sample shall be kept in an airtight, closed container for comparison with samples from deliveries.

For Type I detergent, the percentage of matter volatile at 105° ±2° C. will be computed on the basis of the grit paste detergent as received, but with all other constituents will be calculated on the basis of material containing 50.0 per cent of matter volatile at 105° ±2° C. Types II and III shall have all constituents reported on the basis of the sample as received.

Table I.—Detail Requirements for Hand Detergents

	Type I		*Type II*		*Type III*	
	Min.	*Max.*	*Min.*	*Max.*	*Min.*	*Max.*
Matter volatile at 105° ± 2° C.....	....	55.0	....	5.0	....	10.0
Alkaline salts (calculated as sodium carbonate)	....	3.0	2.0	5.0	....	0.2
Free alkali (calculated as sodium hydroxide)	....	0.1	....	0.1	....	0.1
Free acid (calculated as oleic acid)...	....	0.5	....	0.5	....	0.5
Anhydrous soda soap and/or active salt-free synthetic detergents.....	8.0	....	17.0	....	35.0	....
Matter insoluble in water (siliceous matter)	25.0	50.0	60.0	76.0	....	none
Fineness of insoluble siliceous matter; Percent retained on:						
No. 40 sieve	....	none	....	none	....	....
No. 60 sieve	10.0	20.0	....	5.0	....	....
No. 80 sieve	30.0	45.0	....	....	....	....
No. 100 sieve	35.0	55.0	....	30.0	....	....
No. 200 sieve	60.0	....	....	60.0	....	....
Matter insoluble in water (sawdust or cornmeal)	....	....	....	....	40.0	62.0
Fineness of finished detergent; Percent retained on:						
No. 20 sieve	....	....	....	....	....	none
No. 45 sieve	....	....	....	....	50.0	....
No. 100 sieve	....	....	....	....	90.0	....
Rosin	....	....	....	5.0	....	5.0
Sugar	....	none	....	none	....	none
Volatile hydrocarbons (pine oil).....	....	....	....	....	3.0	5.0

Special Detergents (P-D-236)

Detergents for manual cleaning of aluminumware shall be of the following classes:

Class A. Non - abrasive cleaner.

Class B. Abrasive cleaner.

The material used in Class A non-abrasive cleaner shall be suitable for any type of manual washing where abrasiveness is not desired, and shall be substantially uniform in appearance throughout. It shall be free from objectionable odor, and shall dissolve readily in tepid water. Cleaner may be supplied in either powder, granule or chip form provided it conforms to the detailed requirements.

The material used in Class B abrasive cleaner shall be suitable for any uses requiring a manual cleaner where soil adheres too tenaciously for non-abrasive cleaners. It may be supplied in the form of a solid, a paste, or a combination of any two of the above. Combinations of metal wools and soaps may be supplied. The cleaner shall be free from objectionable odor and from poisonous or irritant chemicals.

Each bidder shall submit with his proposal a sample of the material that he proposes to furnish. Each sample shall be labeled to show the amount recommended for softening 10 gallons of water containing 10 grains (171 p.p.m.) of hardness, calculated as $CaCO_3$, and may be used by the inspector or purchasing officer in the recommended proportions for determining the performance or cleaning ability of the material.

Samples from deliveries shall be subjected to similar tests. If specified by the purchasing officer, the material, when used in the proportions recommended by the bidder, shall be at least equal in cleaning ability to a standard sample furnished, or indicated, by the purchasing officer.

Class A. Non-Abrasive Cleaner shall conform to the following detail requirements:

Turbidity—The turbidity of the cleaner solution shall conform to the test described in paragraph F-2b (2). (See complete Specification.) *Corrosion*—When tested by the method described in paragraph F-2f (2), the cleaner solution shall be without visible action on bare or anodic oxide-coated aluminum alloy. *Water Softening Capacity* — A suds which is stable for not less than 5 minutes shall be formed when the material is tested as described in paragraph F-2e. *Hydrogen Ion Content*—The pH of a 1 per cent solution by weight of the cleaner in distilled water shall not exceed 10.5 when measured as indicated in paragraph F-2h. *Cleaning Ability*—The material shall

clean satisfactorily when tested as indicated in paragraph F-2a. *Relative Cost*—The relative cost of the cleaner shall be determined from the product of the delivered price per pound of the cleaner and the number of pounds of the cleaner required to treat 1000 gallons of water containing 10 grains (171 p.p.m.) per gallon of hardness, calculated as $CaCO_3$. The amount of cleaner used in this computation shall be that required to give the concentration used in paragraphs F-2b (2) and F-2e of this specification.

Class B. Abrasive Cleaner shall conform to the following detail requirements: *Abrasion*—When tested by the method described in paragraph F-2i (See complete Specification) the cleaner shall produce no undesirable scratching. *Corrosion*—When tested by the method described in paragraph F-2f (3), the cleaner shall be without visible action on bare or anodic oxide-coated aluminum alloy. *Rinsibility* — When tested by the method described in paragraph F-2j, the cleaner shall be removed completely from a glass plate. *Cleaning Ability* — The material shall clean satisfactorily when tested as indicated in paragraph F-2a.

Proposed Revisions For Mechanical Dishwashing Compound.

The following specification for mechanical dishwashing compound is now under revision and a new number will be assigned to type I, previously part of specification P-D-236.

The material used in this dishwashing compound shall be of but one grade. It shall include any free flowing form, such as powder, granular crystalline, and flake, and shall be suitable for use in spray type mechanical dishwashing machines. The material shall be thoroughly mixed and present no evidence of segregation of individual constituents, or of lumping or caking.

General Requirements: Bid sample. Unless otherwise specified in the invitation for bids, each bidder shall submit with his proposal a 10-pound sample of the material that he proposes to furnish for the purpose of determining compliance with the requirements of this specification.

Composition

Constituents	*Percent (by weight)*	
	Minimum	*Maximum*
Moisture	..	25
Alkali (as Na_2O)	30	45
Phosphates (as P_2O_5)	20	..
Silicates (as SiO_2)	8	..
Carbonates (as CO_2)	..	20
Insoluble matter	..	1
Total of P_2O_5, SiO_2, and CO_2	35	..
Total of Na_2O, P_2O_5, SiO_2 and CO_2	70	..

Detergent for use in mechanical dishwashing machines shall conform to the following detail requirements:

Stability — Dishwashing compound shall remain stable, free-flowing and usable under conditions varying between —15° C. (5° F.) and 37° C. (100° F.) of storage and shipment in original containers for a minimum of six months after delivery. *Odor* — The dishwashing compound shall be free from objectionable odor in either dry form or in solution. *Abrasion* — Use of the product shall produce no abrasion or undue wear on the surface of utensils, dishes or dishwashing machines. *Toxicity*—Shall be relatively non-toxic and shall not cause irritation of the skin. *Instructions* — Unless otherwise specified, suitable cards, not less than 3 x 10 inches in size, with the instructions (detailed in the specification) shall be placed inside the top and bottom of each container.

Permissible constituents — Constituents permissible in dishwashing compounds covered by this specification include sodium phosphates, sodium carbonates, sodium metasilicate, moisture, and small proportions of sodium hydroxide. The composition of the material shall be as shown in table above.

Inert constituents — Total inert constituents (other than moisture and insoluble matter), including chlorides (as NaCl) sulphates (as Na_2SO_4) and other constituents not listed in permissible constituents paragraph, shall not exceed 3 per cent. *pH and buffer capacity*—When tested as described in paragraph F-23, (in the complete specification) the compound solution shall have an initial pH of not less than 10.5 and not higher than 12.0. The addition of 2 ml. of 0.1 N hydrochloric acid shall not reduce the pH of the solution by more than one unit. *Water-softening capacity (ability to prevent precipitation of calcium and magnesium compounds)* — When tested as described in paragraph F-2f of complete specification, the weight of precipitate obtained shall not exceed 11 mg. *Corrosion* — When tested as described in paragraph F-2g of the complete specification, aluminum test specimens shall not be discolored or etched, nor shall a dense white film be formed on the surfaces. Slight dulling of the surfaces, or formation of a faint white film on the test specimens, shall not be interpreted as evidence of nonconformity with the requirement. *Foaming* — A 0.5 percent solution of dishwashing compound shall produce not more than 10 ml. of foam when tested as described in paragraph F-2h of the complete specification. *Lack of lumping or caking and particle size* — At least 99 percent of the material shall pass through a No. 4 standard sieve conforming to the requirements of Federal Specification RR-S-366, when tested by method 210.1 of Federal Specification P-S-536. The particle size of mechanical mixtures of powdered ingredients shall be uniform, in order to minimize segregation of the ingredients.

Sweeping Compound (P-C-591b)

Proposed revision specification.

Sweeping compound shall consist of a uniform mixture of the materials as specified for each type and shall be artificially colored or uncolored as specified by the purchaser. If desired, shall conform to the color of a sample mutually agreed upon by buyer and seller. The material shall not stain flooring surfaces on which it is used.

Type I. — Sawdust- Sand-Mineral Oil.

Odor shall not be objectionable. If desired shall conform to the odor of a sample mutually agreed upon by buyer and seller. The material shall not give off flammable vapors when tested according to paragraph F-2b. Matter volatile at 105-110° C. shall be not more than 10 per cent by weight. Refined mineral oil (such as paraffin oil) shall be not less than 15 per cent and not more than 20 per cent by weight. The acid number (milligrams of KOH per gram of sample) of the extracted oils shall not exceed 17. The saponification number (milligrams of KOH per gram of sample) of the extracted oils shall not exceed 20. Clean, fine, feldspar sand shall be not less than 35 per cent and not more than 50 per cent by weight. Not more than 1 per cent by weight of sand (based on sand content) shall be retained on a No. 20 seive when tested according to paragraph F-2k. The remainder shall be finely ground sawdust. Not more than 1 per cent by weight of sawdust (based on sawdust content) shall be retained on a No. 8 seive when tested according to paragraph F-2k.

Type II — Sawdust-Sand-Water wax emulsion.

Odor shall not be objectionable. If desired shall conform to the odor of a sample mutually agreed upon by buyer and seller. The material shall not give off flammable vapors when tested according to paragraph F-2b. Matter volatile at 105-110° C. shall be not more than 12 per cent by weight.

Clean, fine, feldspar sand shall be not less than 60 per cent and not more than 70 per cent by weight. Not more than 1 per cent by weight of sand (based on sand content) shall be retained on a No. 20 sieve when tested according to paragraph F-2k. Finely ground sawdust shall be not less than 5 per cent and not more than 10 per cent by weight. Not more than 1 per cent by weight of sawdust (based on sawdust content) shall be retained on a No. 8 sieve when tested according to paragraph F-2k. The remainder shall be waxes and emulsifying agents.

Liquid Automobile Polish (P-P-546)

Shall be suitable for use on lacquer, baked enamel and synthetic enamel finishes. Shall have no objectionable odor. Shall be a stable aqueous emulsion containing a suitable abrasive in suspension. The polish shall be a free-flowing fluid that can readily be applied with a cotton cloth and shall spread easily. Non-volatile matter, total solids, shall be not less than 25 per cent by weight. Ash content, based on non-volatile, shall be not less than 35 per cent nor more than 50 per cent by weight. No free caustic alkali. Neutralization number shall be not more than 5. All of the material shall pass through a No. 200 sieve, and not less than 95 per cent, based on ash content, shall pass through a No. 325 sieve. Volatile matter shall be essentially water. Physical and performance tests are also specified.

Liquid Furniture Polish (P-P-552)

The polish shall be free from abrasives and suitable for use on finishes on wood and metal furniture. It shall have no objectionable odor. It shall be a stable colloidal emulsion of oil in water. It shall be a free-flowing fluid that can readily be applied with a cotton cloth and easily spread. Non-volatile matter shall be not less than 40 per cent by weight, and shall be essentially a well-refined petroleum oil. Ash content, based on non-volatile matter, shall be not more than 1 per cent by weight. Volatile matter shall be essentially water. No free caustic alkali shall be present. The saponification number shall be not more than 30. Physical and performance tests are also specified.

Metal Polish (P-P-556a)

Metal polish shall be of the following types:

Type I. Powder.
Type II. Liquid
Type III. Paste.

Metal polish of each type shall be of but one grade. It shall be a product, with or without a finely divided abrasive, suitable for the removal of tarnish from brass, nickel, copper, and other metals and capable of producing a luster thereon.

All types of metal polish shall have good tarnish removing properties, good luster-producing properties, shall give good protection to the polished surface against tarnishing influences, and shall be so constituted and prepared that, by reason of application and polishing, they—

(1) Shall not scratch metals.

(2) Shall not leave the metal discolored or caked with abrasive material.

(3) Shall not be detrimental in any manner to metals.

(4) Shall not show any unnecessary caking of type I or III polish in the containers. The abrasive material in liquid (Type II) polish, shall show no caking in the container, which cannot be readily put into suspension by thoroughly shaking the containers. The abrasive material shall be of such particle size that 100 per cent will pass through a No. 200 sieve.

Metal polish shall be free from acids, cyanide of potassium or other cyanides, grit, or other ingredients having detrimental effects on metals. Shall clean quickly, leaving a bright polished surface, with a full luster for the material being polished. When so specified the tarnish-removing and luster-producing properties shall be equal

in quality to those of a standard sample furnished or approved by the purchaser. The polished surface shall remain free from corrosion or discoloration for a period of at least 24 hours.

Polish shall have good keeping qualities and be guaranteed for 1 year from the date of actual receipt at point of delivery. During the guaranty period the successful bidder shall replace without cost any metal polish which through deterioration, evaporation, caking in the container, or other causes, becomes unfit for use. Replacement metal polish shall also be guaranteed for 1 year from date of receipt. The metal polish will be stored in original unopened shipping containers, not subjected to freezing temperature or to excessive artificial heat. The amount of volatile matter, at 105° to 107° C., in either type II or III polish, shall not exceed 70 per cent by weight, of the polish. The flammability of the liquid contents of types II and III polishes shall not be not less than 39° C.

Silver Polish (P-P-571b)

Silver polish shall be of the following types:

Type I. Liquid.

Type II. Paste.

Type III. Powder.

Silver polish shall be of but one grade, and shall consist solely of finely ground diatomaceous or infusorial earth, prepared as a powder (Type III) or suitably compounded with a neutral soap, to produce a liquid (Type I) or paste (Type II).

All types of silver polish shall have—

(a) Good tarnish-removing properties.

(b) Good luster-producing properties and shall be so constituted and prepared that by reason of application and polishing, they—

(1) Shall not scratch silverware.

(2) Shall not leave silver discolored.

(3) Shall not leave any residue (which will cause discoloration) not removable by washing in warm soapy water.

(4) Shall not show any unnecessary caking of Type II or III polish in the containers. The abrasive material in liquid (Type I) polish, shall show no caking in the container which cannot be readily put into suspension by thoroughly shaking the containers.

The diatomaceous or infusorial earth in all types of silver polish shall be of such particle size that 100 per cent will pass through a No. 200 sieve.

Silver polish shall be free from acids or cyanides. Shall clean quickly leaving a bright polished surface, with a full luster for the material being polished. It shall have good keeping qualities and be guaranteed for 1 year from the date of actual receipt at point of delivery. During the guaranty period the successful bidder shall replace, without cost, any silver polish which through deterioration, evaporation, caking in the container or other causes, becomes unfit for use. Replacement silver polish shall also be guaranteed for 1 year from date of receipt. The silver polish will be stored in original unopened shipping containers not subjected to freezing temperature or to excessive artificial heat. The amount of volatile matter, at 105° to 107° C., in either Type I or II polish, shall not exceed 70 per cent by weight, of the polish. The flammability of the liquid contents of Types I and II polishes shall be not less than 39° C.

Stove Polish (P-P-576)

Stove polish shall produce a deep, lustrous black color when applied as directed by the manufacturer. It shall produce no odors upon burning and shall produce a durable coating that will not readily be burned off.

Type I.—Polish, stove, liquid, shall be of such consistency that the addition of a fluid will not be necessary in order to make it free-flowing. The vehicle of the polish shall be a non-inflammable liquid.

Type II. — Polish, stove, paste, shall be non-inflammable and shall be of such consistency that it can be readily applied.

Type III. — Polish, stove, powder, shall readily form a paste with water, and shall be non-inflammable.

Type IV. — Polish, stove, cake, shall readily disintegrate in water and form a paste and shall be non-inflammable.

Scouring Powder for Floors (P-P-591a)

Scouring powder for floors shall be of the following types, as specified: Type I—for fine marble floors; Type II—for tile or ceramic and terrazzo floors; Type III—soap scouring compound.

Type I—(For fine marble floors).

Matter volatile at 105° ±2° C. shall not exceed 10 per cent. The sum of sodium carbonate (Na_2CO_3) and anhydrous soap and/or active anhydrous salt-free synthetic detergent shall not exceed 7 per cent nor be less than 2 per cent. Free alkali, calculated as sodium hydroxide (NaOH) shall not exceed 0.1 per cent. Insoluble siliceous material shall be not less than 85 per cent nor more than 95 per cent. All of the insoluble siliceous material shall pass through a No. 100 sieve, and the residue retained on a No. 200 sieve shall not exceed 5 per cent. The material shall not scratch nor discolor marble.

Type II—(For tile or ceramic and terrazzo floors).

Matter volatile at 105° ±2° C. shall not exceed 10 per cent. The sum of sodium carbonate (Na_2CO_3) and anhydrous soda soap and/or active anhydrous, salt-free synthetic detergent shall not be less than 2 per cent. Free alkali, calculated as sodium hydroxide (Na OH), shall not exceed 0.1 per cent. Insoluble siliceous material shall be not less than 80 per cent nor more than 95 per cent. The insoluble siliceous material shall not yield more than 1 per cent of residue retained on a No. 60 sieve and not more than

10 per cent of residue retained on a No. 80 sieve.

Type III — (Soap scouring compound).

Matter volatile at 105° ±2° C. shall not exceed 6 per cent. Carbonated alkali, calculated as sodium carbonate (Na_2CO_3) shall not be less than 6 per cent nor more than 20 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Anhydrous soap and/or active anhydrous salt-free synthetic detergent shall be not less than 3 per cent nor more than 10 per cent. Insoluble siliceous material shall be not less than 60 per cent nor more than 90 per cent. The insoluble siliceous material shall not yield more than 1 per cent of residue retained on a No. 60 sieve and not more than 10 per cent of residue retained on a No. 80 sieve.

Scouring Powder for Glass (P-P-596a)

Shall be a fine, uniform powder, and shall be suitable for cleaning highly polished glass surfaces which must transmit light efficiently, such as cabin windows and windshields of aircraft.

The material shall clean glass surfaces satisfactorily without scratching the glass or leaving an oily or other film on the surface. The material shall be a uniform, free-flowing powder, shall be scented or unscented, and shall be white or light gray in color. Matter volatile at 105° ±2° C. shall not exceed 4 per cent. Alkali as alkaline salts (total alkalinity of matter insoluble in alcohol), calculated as sodium carbonate (Na_2CO_3), shall not exceed 5 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Insoluble siliceous material shall be not less than 85 per cent nor more than 93 per cent, and shall consist of ground feldspar or other insoluble siliceous abrasive that will not scratch highly polished glass surfaces. All of the insoluble siliceous material shall pass through a No. 200 sieve. Rosin, sugar, and foreign matter shall not be present. Anhydrous soda soap shall be not less than 4 per cent and shall be within 1 per cent of the difference between 100 and the sum of the matter volatile at 105° ±2° C., insoluble siliceous material, and alkali as alkaline salts.

Floor Oil; Mineral (P-O-361)

Floor oil shall be a straight-run petroleum distillate suitable for use on wood floors. It shall have no objectionable odor; and may be perfumed with cedar oil, pine oil, or similar materials, when specified. It shall be a clear well-defined petroleum oil free from sediment and other foreign material, and shall meet the following requirements:

The viscosity shall be not less than 70 nor more than 110 seconds (Saybolt Universal) at 100°F. The flash point shall be not less than 300°F. (open cup). The color shall be not darker than 3 N. P. A. (Lemon pale) (ASTM No. 3). The pour point shall be not more than 30°F. The saponification number shall not exceed 1.

Floor Wax; Solvent-Type, Liquid (With Resins) (P-W-134)

The liquid wax shall dry to a film that polishes easily to a hard lustrous flexible surface. It shall not be so highly colored as to stain the surface, and shall dry within 45 minutes to a semi-transparent, non-tacky film which shall show no signs of whiteness. It shall consist essentially of blended waxes with small amounts of resins in a volatile organic solvent. It shall be a heavy bodied liquid mixture of sufficient fluidity to permit freedom of application at 20° to 25° C. There shall be no appreciable settling of the suspended material. The liquid wax shall be smooth and shall be free from hard particles and granules.

Nonvolatile Matter (Total Solids).—There shall be not less than 11%, by weight, of nonvolatile matter in the liquid wax. The nonvolatile material shall meet the requirements shown in the table above:

Volatile Organic Solvent (Vehicle).—Shall consist of turpentine or volatile petroleum distillates, or any mixture thereof. The flash point of the volatile solvent shall be not less than 28° C. (closed cup).

Physical and Performance Tests.—Shall meet tests specified in paragraph F-2b.

Water Emulsion Floor Wax P-W-151b)

New proposed Federal Specification.

The floor wax shall dry to a non-tacky, lustrous finish without rubbing, buffing, or polishing. The film produced shall adhere firmly to the surface without checking, cracking, or peeling and shall be transparent and practically colorless. The floor wax shall be suitable for use on sealed floors and resilient flooring of all kinds. It shall have no objectionable odor. It shall be a stable aqueous colloidal emulsion of waxes. The emulsion shall be a free-flowing fluid that can readily be applied with an applicator such as lamb's wool, cotton cloth, or a mop to spread easily and uniformly.

The floor wax shall meet the following requirements:

Nonvolatile matter (total solids).—Shall be not less than 12 per cent.

Wax content and softening point.—The wax content of the total solids shall be not less than 65 per cent, by weight, and shall have a softening point of not less than 80° C.

***Ash content** (based on non-*

Requirements for Non-Volatile in P-W-134

	Minimum	*Maximum*
Softening Point	71° C	..
Acid Value	..	18
Saponification Value	40	85
Iodine Number (WIJS)	15	22
Ash Content, Per Cent	..	0.5

volatile matter content).—Shall not exceed 3.5 per cent.

Volatile solvents. — Shall be free from petroleum distillates and other organic volatile solvents. The distillate shall consist of not less than 99 per cent of water.

Sediment.—Shall be not more than 2 per cent (by volume).

Alkalinity. — The pH range shall not be greater than 10.0 nor less than 7.0.

Stability. — Shall show no gelling or separation.

Physical and performance tests are also provided.

Floor Wax (P-W-158)

New proposed revised Federal Specification.

The product shall dry to a film that polishes easily to a hard lustrous flexible surface. It shall not be so highly colored as to stain the surface; and shall dry within 45 minutes to a semitransparent non-tacky film which shall show no signs of whiteness. Floor wax shall consist essentially of blended waxes in a volatile organic solvent. It shall be free from rosin.

Type I (liquid)—Shall be a heavy bodied liquid mixture of suitable consistency to permit freedom of application at 20° to 25° C. There shall be no appreciable settling of the suspended material. The liquid wax shall be smooth and shall be free from hard particles and granules. There shall be not less than 11 per cent, by weight, of non-volatile matter in the liquid wax. The nonvolatile matter shall meet the following requirements:

	Minimum	*Maximum*
Softening point	75°C.	—
Ash content, per cent..	—	0.5

The solvent shall consist of turpentine or volatile petroleum distillates, or any mixture thereof. The flash point of the volatile solvent shall be not less than 28° C. Physical and performance tests are also provided.

Type II (paste).—Shall be a semi-solid material at 20° to 22° C. There shall be no separation of liquid from paste. The paste shall be smooth and shall be free from hard particles and granules. There shall be not less than 20 per cent, by weight, of nonvolatile matter in the paste wax. The nonvolatile material shall meet the following requirements:

	Minimum	*Maximum*
Softening point	71°C.	—
Ash content, per cent..	—	0.5

The vehicle shall consist of turpentine or volatile petroleum distillates, or any mixture thereof. The flash point of the volatile solvent shall be not less than 28° C. Physical and performance tests are also provided.

Floor Sealer (Lacquer Type) (TT-S-171)

The manufacturer is given wide latitude in the selection of raw material and processes of manufacture, provided that the sealer produced meets the requirements and tests. The product, when applied in accordance with directions shall satisfactorily seal the pores of the wood leaving the wood surface in such condition as to provide a satisfactory foundation for a finishing material such as varnish, liquid or paste wax or water-emulsion wax. It shall be "natural" in color and of sufficient fluidity to permit application with a bristle brush or lamb's wool mop.

The floor sealer shall be a clear liquid free from sediment or suspended matter and shall be of such fluidity that no further thinning will be required. It shall meet the following requirements:

Nonvolatile matter.—Not less than 14 per cent.

Set-to-touch. In not more than 15 minutes.

Dry hard and tough.—In not more than 3 hours.

Nitrocellulose.—Not less than 20 per cent by weight of the nonvolatile content.

Toughness. — Air-dried film on metal shall withstand rapid bending over a rod 3 mm. (⅛ inch) in diameter.

Viscosity. — Not more than 0.220 poise.

Performance tests are also specified.

Wood and Cork Floor Sealers (TT-S-176a)

Floor sealers shall be furnished in one grade and two classes for use on wood and cork floors as follows: Class 1 — minimum nonvolatile content 40 per cent; Class 2 —minimum nonvolatile content 25 per cent. The manufacturer is given wide latitude in the selection of raw materials and processes of manufacture, provided that the sealer produced meets the requirements and tests described in this specification.

When applied in accordance with directions the product shall satisfactorily seal the pores of the flooring by absorption, leaving no apparent surface film and shall provide a satisfactory foundation for a finishing material such as varnish, liquid or paste wax, or water-emulsion wax. Unless otherwise specified, floor sealer shall be furnished "natural" in color. Floor sealer shall have sufficient fluidity to permit application with a bristle brush or lamb's wool mop.

Both classes of sealers shall be nonpigmented materials and shall be capable of being thinned with turpentine or mineral spirits. The respective sealers shall meet the following requirements: *Nonvolatile matter*—Class 1, not less than 40 per cent; Class 2, not less than 25 per cent. *Set to touch*—in not less than 1 hour and not more than 4 hours. *Dry, hard and tough*—in not more than 18 hours. *Water test*—The sealer shall meet specified cold water test.

Toughness—Shall pass a 75 per cent Kauri reduction test at 25° C. (77° F.).

Flash point—Shall be not below 30° C. (86° F.). (Closed-cup.)

Viscosity at 25° C.—Class 1, not more than 0.50 poise; Class 2, not more than 0.220 poise.

Skinning—Shall be negligible when received and after 48 hours in

a tightly closed half-filled container.

Odor—The odor in the can, during drying, and/or after drying shall not be abnormally offensive or disagreeable.

Performance tests are also specified.

Liquid Insecticide (Fly Spray) (O-I-541a)

The insecticide shall not cause irritation to man nor be poisonous to man when applied in the usual manner. It shall have no greater detrimental action on metal or paint surface than a specified test solvent. It shall have no objectionable odor. It shall be formulated from a petroleum distillate base, free from kerosene odor and practically free from all odor. shall be clear and free from suspended matter and shall contain active ingredients so that it will test not more than 2 per cent below the O.T.I. in average percentage knockdown and at least 16 per cent above the O.T.I. in average percentage kill.

Initial boiling point shall not be belc.. 350° F. and end point not above 530° F. Flash point shall be not less than 125° F. (closed cup). No residual odor shall be present, under a specified test. The product shall meet specified test for staining properties and corrosion.

Liquid Insecticide (Household) (O-I-546a)

The specification follows closely along the lines of the specification for O-I-541a, with an addition requirement as follows, covering minimum pyrethrin content "There shall be not less than 0.13 gram of Pyrethrin I with the normally acompanying amount of Pyrethrin II in 100 ml. of the liquid insecticide. Any additional ingredients which when incorporated in the product will comply with the requirements of this specification may be used to bring the strength of the product up to the performance requirements." The performance test specifies that it must test not more than 2% below the O.T.I. in knockdown and at least equal to the O.T.I. in kill.

Shaving Cream and Soap (FFF-C-641)

Shaving soap and cream shall be of the following types and classes:

Type I. Soap:
- Class (A)—Cakes.
- Class (B)—Stick.
- Class (C)—Powder.

Type II. Cream:
- Class (A)—Lather cream.
- Class (B)—Brushless cream.

Shaving soaps, Type I, shall be high-grade products free of caustic alkalinity that yield a heavy, creamy lather that will remain moist upon the face until the shaving is completed. In the case of Class B (stick), the soap shall adhere to the face when the stick is moistened and rubbed thereon. In the case of class C (powder), the material shall be free-flowing and shall not cake in the container.

Lather cream — Class A, shall be a soft, uniform cream or paste free from free alkali. It shall distribute well into the bristles of a shaving brush and shall yield a heavy creamy lather that will remain moist upon the face until the shaving is completed.

Brushless cream—Class B shall be a soft, uniform cream or paste free from free alkali.

Type I. Shaving soap, Classes A, B, and C—

Color—shall be as specified by the purchaser. *Odor*—shall be pleasant and shall be as specified by the purchaser. *Lathering quality*—shall be satisfactory. Shall conform to the following test:

Shake 100 ml of a 0.2 per cent (based on the nonvolatile matter) solution of the soap (Type I, classes, A, B, and C and Type II, class A) in distilled water at room temperature in a stoppered 200-ml graduated cylinder 30 times in 15 seconds, and let stand at room temperature for 1 hour. The volume of foam above the liquid shall extend to the top of the cylinder and shall not decrease more than 10 per cent of its original volume in 1 hour.

Caking (Class C only)—The material shall be free-flowing and shall not cake in a closed container at room temperature.

Type II. Shaving cream. Classes A and B—

(*Turn to Page* 238)

Detail Requirements for Shaving Soap

TYPE I	*Classes A and B cake and stick*		*Class C powder*	
	Min.	*Max.*	*Min.*	*Max.*
	Per Cent	*Per Cent*	*Per Cent*	*Per Cent*
Matter volatile at 105° C.	—	10	—	2
Matter insoluble in hot 95 per cent ethyl alcohol	—	.8	—	.8
Free alkali	—	None	—	None
Free fatty acids (calculated as stearic acid)	—	1.0	—	1.0
Matter insoluble in hot distilled water	—	.4	—	.4
Anhydrous soap (calculated as potash soap)	87	—	96	—
Amount passing a No. 20 sieve	—	—	100	—

Detail Requirements for Shaving Cream

TYPE II	*Class A lather cream*		*Class B brushless cream*	
	Min.	*Max.*	*Min.*	*Max.*
	Per Cent	*Per Cent*	*Per Cent*	*Per Cent*
Moisture (toluene distillation method)	—	50	—	70
Matter insoluble in hot 95 per cent ethyl alcohol	—	.3	—	—
Free alkali	—	None	—	None
Free fatty acid (calculated as stearic acid)	—	6.5	15	—
Matter insoluble in hot distilled water	—	.3	—	—
Anhydrous soap (calculated as potash soap)	40	—	—	—

N.A.I.D.M. SPECIFICATIONS

Official Specifications of the National Association of Insecticide and Disinfectant Manufacturers for

INSECTICIDES and DISINFECTANTS

OFFICIAL SPECIFICATIONS Liquid Household Spray Insecticide

(Adopted December, 1936)

1. A household spray oil type insecticide shall be harmless to man and warm blooded household animals, when used as directed.

2. When sprayed, as directed, it shall not stain fabrics, wall paper and general household furnishings, that are not stained by dry cleaning fluid.

3. When used in the customary manner it shall not contaminate closed packages of food materials commonly found in homes.

4. It shall not corrode metals.

5. It shall have no objectionable odor, and no particular odor shall be specified.

6. It shall have a flashpoint not less than 125° F. when tested in the Tagliabue closed cup.

7. It is recommended that it be purchased on a direct competitive basis with the Official Test Insecticide of the National Association of Insecticide and Disinfectant Manufacturers, Inc., by using the method of test specified in literature accompanying the Official Test Insecticide.

8. The Association hereby adopts the following grades (the plus or minus figures shown therein designating the points over or under the Official Test Control Insecticide when the "Unknown" and the "Control" are tested at the same time in the same manner):

Designation	*Grade*	*Kill Classification*
AA	Excellent	+ 16 or higher
A	Very Good	+ 6 to + 15
B	Equal to Official Test Insecticide	+ 5 to — 5

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1: Standard Specifications for Liquid Hypochlorites Disinfectant, Deodorant and Germicide

Composition—Liquid hypochlorites are available in three forms: *one,* sodium hypochlorite alkaline with sodium hydrate, sodium carbonate or the other alkaline salts; *two,* hypochlorites which are essentially sodium hypochlorite and alkaline with calcium hydrate; and *three,* calcium hypochlorite solutions alkaline with calcium hydrate. A delivery of any one of these shall be satisfactory unless otherwise specified.

Physical Requirements — The hypochlorite solution shall be a homogeneous liquid. It shall be miscible with water of zero hardness at 20° C. (68° F.) in all proportions. It shall be ready for dilution when delivered.

Chemical Requirements—The available chlorine content which shall not be less than 2.5 per cent by weight shall be clearly stated on the label. Its rate of deterioration shall not be more than 10 per cent of its original available chlorine content when stored in the original container for six months in a cool, dark place at maximum temperature of 68° F. (20° C.).

Identification—Each container shall be marked with the name of the material, the brand (if any) of the material, the name of the manufacturer, net contents therein, and date of manufacture.

Packing—The hypochlorite shall be delivered in standard commercial containers of the size as called for in the schedule. Each container holding one gallon or more shall be stoppered with a closure having vent.

2: Standard Specifications for Pine Oil Disinfectant

1. The product shall be manufactured from pure steam distilled pine oil and emulsifying agent and remain clear and homogeneous under normal and reasonable conditions of storage.

2. It shall contain not less than 60 per cent by weight steam distilled pine oil.

3. It shall contain not more than 10 per cent water.

4. The phenol coefficient shall be determined by the F.D.A. Method of Test against B. typhosus and be clearly stated on the label attached to each shipping container.

5. It shall not contain kerosene or other petroleum distillates.

6. The product shall make a stable emulsion in water of zero hardness at 20° C. (68° F.) when diluted at the rate of 5 per cent. The emulsion shall stand for at least twenty-four hours showing no sign of oil float (unsaponified or clear free oil).

3: Standard Specifications for Emulsifying Type Coal Tar Disinfectant

1. It shall be made from phenols of coal tar or petroleum origin, or combinations of such phenols with coal tar oils, and an emulsifying agent.

2. It shall contain not less than 65 per cent by weight of phenols and coal tar oils.

3. It shall contain not over 10 per cent of water, by weight.

4. It shall not contain kerosene or any petroleum distillates other than phenols of petroleum origin.

5. The phenol coefficient shall be determined by the Food and Drug Administration Method using B. typhosus as test organism, and shall be clearly stated on the label attached to each shipping container.[1]

6. It shall make milky emulsions with water of zero hardness at 20° C. (68° F.) when diluted in the ratio of 5 parts of disinfectant to 95 parts of water for disinfectants having phenol coefficients of 10 or under; and in the ratio of 2 parts of disinfectant to 98 parts of water for disinfectants having phenol coefficients of over 10. These emulsions shall show not more than a trace of oily float or sediment when stored for 5 hours at room temperature.

7. It shall remain limpid, showing no sign of naphthalene crystallization down to 0° C. in 3 hours.

8. It shall contain less than 5 per cent of benzophenol.

9. The disinfectant, under normal and reasonable conditions of storage, shall remain stable and show no loss of germicidal value.

Certification and Labeling

10. The following form of statement on labels[2], invoices, etc., is recommended:

"The .....Company certifies this phenolic disinfectant (emulsifying type) to conform to all requirements of the standard adopted by the NATIONAL ASSOCIATION OF INSECTICIDE AND DISINFECTANT MANUFACTURERS, INC., and recorded as Commercial Standard CS70-.... by the National Bureau of Standards of the U. S. Department of Commerce.
Phenol coefficient....."

[1] This type of disinfectant is available with phenol coefficients ranging from 2 to 30, and higher. Contract buyers should specify the phenol coefficient desired.

[2] When used on labels this statement is in addition to, and not in lieu of, the ingredient statement required by the Insecticide Act of 1910.

4: Standard Specifications for Cresylic Disinfectants

Scope

1. This standard covers materials, physical and chemical properties, and certification of quality of phenolic disinfectant (soluble type), classified under two groups as follows:

(a) Group I—Phenolic disinfectants having phenol coefficients from 1.5 to 5[1].

(b) Group II—Phenolic disinfectants having phenol coefficients above 5.

Detail Requirements (Group I)

2. Group I disinfectants shall be made from cresol or cresylic acid of coal tar or petroleum origin, and a dissolving agent.

3. Group I disinfectants shall contain not less than 50 per cent of cresol or cresylic acid, as determined by the method prescribed in U. S. Pharmacopoeia XI for the assay of cresol in the Saponated Solution of Cresol.

4. Group I disinfectants shall contain not more than 25 per cent by weight of inert ingredients (water plus glycerine, and organic solvents, if any).

5. The phenol coefficient of Group I disinfectants shall be determined by the Food and Drug Administration Method using B. typhosus as the test-organism, and shall be clearly stated on the label attached to each shipping container.

6. Group I disinfectants shall contain less than 5 per cent of benzophenol.

7. Group I disinfectants shall make clear solutions with water of zero hardness at 20° C. (68° F.) within the concentration range of from 1 to 4 per cent; such solutions, when kept in closed containers, shall remain either practically clear or become only slightly opalescent when allowed to stand for 24 hours at 20° C. (68° F.) away from direct light.

8. Group I disinfectants shall show no soap separation when cooled down to 0° C. and held at this temperature for 3 hours.

Detail Requirements (Group II)

9. Group II disinfectants shall be made from phenols of coal tar or petroleum origin, and a dissolving agent.

10. Group II disinfectants shall contain not less than 50 per cent of phenols[2].

11. Group II disinfectants shall contain not more than 25 per cent by weight of inert ingredients (water plus glycerine and organic solvents, if any).

12. The phenol coefficients of Group II disinfectants shall be determined by the Food and Drug Administration Method using B. typhosus as the test-organism, and shall be clearly stated on the label attached to each shipping container.

13. Group II disinfectants shall contain less than 5 per cent of benzophenol.

14. Group II disinfectants shall make clear solutions with water of zero hardness at 20° C. (68° F.) at concentrations of 2 per cent or less; such solutions, when kept in closed containers, shall remain either practically clear or become only slightly opalescent when allowed to stand for 24 hours at 20° C. (68° F.) away from direct light.

15. Group II disinfectants shall show no soap separation when cooled down to 0° C. and held at this temperature for 3 hours.

Certification and Labeling

16. The following form of statement on labels[3], invoices, etc., is recommended:

"The .....Company certifies this disinfectant to conform to all requirements for (Group I)
(Group II) of the standard adopted by the NATIONAL ASSOCIATION OF INSECTICIDE AND DISINFECTANT MANUFACTURERS, INC., and recorded as Commercial Standard CS71-...., by the National Bureau of Standards of the U. S. Department of Commerce.
Phenol Coefficient....."

[1] The disinfectants of Group I fall within the type commonly designated "Cresylic disinfectants."

[2] A satisfactory method of assay of all possible types of disinfectants comprised by Group II is not available, but work on the subject is in progress.

[3] When used on labels, this statement is in addition to, and not in lieu of, the ingredient statement required by the Insecticide Act of 1910.

N.A.I.D.M. DEFENSE EMERGENCY SPECIFICATION "A" FOR PHENOLIC DISINFECTANT EMULSIFYING TYPE

Purpose

1. The purpose of this defense emergency specification is to provide a minimum specification for quality, as a basis for understanding and voluntary guarantees between producers, distributors, and users in the purchase of the commodities covered by these specifications, and as a foundation for confidence on the part of purchasers that the efficacy of the material is that which may be expected of phenolic disinfectant (emulsifying type), manufactured in conformity with a recognized specification of a national trade association.

Scope

2. This specification covers materials, physical and chemical properties, and certification of quality of phenolic disinfectant (emulsifying type).

Detail Requirements

3. The disinfectant shall not contain kerosene or any petroleum distillate other than phenols of petroleum origin.

4. The phenol coefficient shall be determined by the Food and Drug Administration method, using B. typhosus as test organism, and shall be clearly stated on the label attached to each shipping container.

5. The disinfectant shall make milky emulsions with water of zero hardness at 20° C. (68° F.) when diluted in the ratio of 5 parts of disinfectant to 95 parts of water for disinfectants having phenol coefficients of 10 or under; and in the ratio of 2 parts of disinfectant to 98 parts parts of water for disinfectants having phenol coefficients of over 10. These emulsions shall show not more than a trace of oily float or sediment when stored for 5 hours at room temperature.

6. The disinfectant shall remain limpid, showing no sign of naphthalene crystallization down to 0° C. in 3 hours.

7. The disinfectant shall contain less than 5 per cent of benzophenol (phenol, C_6H_5OH).

8. The disinfectant, under normal and reasonable conditions of storage, shall remain stable and show no loss of germicidal value.

Certification and Labeling

9. The following form of statement on labels*, invoices, etc., is recommended:

The ..... Company certifies this phenolic disinfectant (emulsifying type) to conform to all requirements of a specification adopted and recorded as N.A.I.D.M. Defense Emergency Disinfectant Specification "A" by the National Association of Insecticide and Disinfectant Manufacturers, Inc.

* When used on labels, this statement is in addition to, and not in lieu of, the ingredient statement required by the Insecticide Act of 1910.

N.A.I.D.M. DEFENSE EMERGENCY SPECIFICATION "B" FOR PHENOLIC DISINFECTANT SOLUBLE TYPE

Purpose

1. The purpose of this defense emergency specification is to provide a minimum specification for quality, as a basis for understanding and voluntary guarantees between producers, distributors, and users in the purchase of the commodities covered by these specifications, and as a foundation for confidence on the part of purchasers that the efficacy of the material is that which may be expected of phenolic disinfectant (soluble type), manufactured in conformity with a recognized specification of a national trade association.

Scope

2. This specification covers materials, physical and chemical properties and certification of quality of phenolic disinfectant, soluble type.

General Requirements

3. The disinfectant shall be made from phenols of coal tar or petroleum origin and a dissolving agent.

4. The disinfectant shall not contain kerosene or any petroleum distillates other than phenols of petroleum origin.

5. The phenol coefficient shall be determined by the Food and Drug Administration method, using B. typhosus as test organism, and shall be clearly stated on the label attached to each shipping container.

6. The disinfectant shall make either a clear or opalescent mixture with dis-

tilled water at 20° C. (68° F.) within the concentration range of 1 to 4 per cent; when opalescent, it shall become practically clear upon addition of a few drops of a 10 per cent KOH solution.

7. It shall show no soap separation when cooled down to 0° C. and held at this temperature for 3 hours.

Certification and Labeling

8. The following form of statement on labels*, invoices, etc., is recommended:

The ..... Company certifies this phenolic disinfectant (soluble type) to conform to all requirements of a specification adopted and recorded as N.A.I.D.M. Defense Emergency Disinfectant Specification "B" by the National Association of Insecticide and Disinfectant Manufacturers, Inc.

* When used on labels, this statement is in addition to, and not in lieu of, the ingredient statement required by the Insecticide Act of 1910.

N.A.I.D.M. SPECIFICATION "C" FOR PHENOLIC DISINFECTANT FROM SYNTHETIC PHENOLS

Purpose

1. The purpose of this commercial standard is to provide a minimum specification for quality, as a basis for understanding and voluntary guarantees between producers, distributors, and users in the purchase of the commodity covered by these specifications, and as a foundation for confidence on the part of purchasers that the efficacy of the material is that which may be expected of phenol disinfectant from synthetic phenols, manufactured in conformity with a recognized specification of a national trade association.

Scope

2. This specification covers materials, physical and chemical properties and certification of quality of phenolic disinfectants of synthetic origin.

Detail Requirements

3. The disinfectant shall be made from synthetic phenols of the type comprising alkyl, aryl, and aralkyl phenols, or their chlorinated or brominated derivatives, and a dissolving or emulsifying agent.

4. The phenol coefficient shall be determined by the Food and Drug Administration method, using B. typhosus as the test organism, and shall be clearly stated on the label attached to each shipping container.

5. The disinfectant, under normal and reasonable conditions of storage, shall remain stable and show no loss of germicidal value.

6. The disinfectant shall make stable emulsions or solutions with water of zero hardness at 20° C. (68° F.); they shall show not more than a trace of float or sediment when stored for 5 hours at room temperature.

Certification and Labeling

7. The following form of statement on labels*, invoices, etc., is recommended:

The ..... Company certifies this phenolic disinfectant from synthetic phenols to conform to all requirements of a specification adopted and recorded as N.A.I.D.M. Specification "C" by the National Association of Insecticide and Disinfectant Manufacturers, Inc.

* When used on labels, this statement is in addition to, and not in lieu of, the ingredient statement required by the Insecticide Act of 1910.

N.A.I.D.M. SPECIFICATION "D" FOR FORTIFIED PHENOLIC DISINFECTANT

Purpose

1. The purpose of this commercial standard is to provide a minimum specification for quality, as a basis for understanding and voluntary guarantees between producers, distributors, and users in the purchase of the commodities covered by these specifications, and as a foundation for confidence on the part of purchasers that the efficacy of the material is that which may be expected of fortified phenolic disinfectant manufactured in conformity with a recognized specification of a national trade association.

Scope

2. This standard covers materials, physical and chemical properties, and certification of quality of fortified phenolic disinfectant of both the emulsifying and soluble types.

Detail Requirements

3. The disinfectant shall be made from phenols of coal tar or petroleum origin, plus synthetic phenols of the class comprising alkyl, aryl or aralkyl phenols or their chlorinated or brominated derivatives, and a dissolving agent.

4. The proportion of the synthetic phenol shall be not more than 25 per cent by weight of the total phenolic content.

5. The disinfectant shall not contain kerosene or any petroleum distillates other than phenols of petroleum origin.

6. The phenol coefficient shall be determined by the Food and Drug Administration method, using B. typhosus as test organism, and shall be clearly stated on the label attached to each shipping container.

7. The disinfectant, under normal and reasonable conditions of storage, shall remain stable and show no loss of germicidal value.

8. The disinfectant shall make stable emulsions or solutions with water of zero hardness at 20° C. (68° F.); they shall show not more than a trace of float or sediment when stored for 5 hours at room temperature.

Certification and Labeling

9. The following form of statement on labels*, invoices, etc., is recommended:

The ..... Company certifies this fortified phenolic disinfectant to conform to all requirements of a specification adopted and recorded as N.A.I.D.M. Disinfectant Specification "D," by the National Association of Insecticide and Disinfectant Manufacturers, Inc.

* When used on labels, this statement is in addition to, and not in lieu of, the ingredient statement required by the Insecticide Act of 1910.

SIMPLIFIED PRACTICE RECOMMENDATION FOR SIZES OF GLASS CONTAINERS AND PACKAGES FOR HOUSEHOLD INSECTICIDES

(Liquid Spray Type)

Table 1.—Retail Packages

Package Size	*Exhibition No. in Limitation Order L-103*	*Overflow Capacity*	*Maximum Weight of Glass*	*Height*	*Maximum Outside Diam. of Body*	*G.C.A. 400 Finish Size*	*Packages per Shipping Case*
	Fluid Ozs.	*Fluid Ozs.*	*Avoir. Ozs.*	*Inches*	*Inches*	*M.M.*	
1 pt.	80-50	16-31/32	11	6-41/64 overall	2-63/64	28	24
1 qt.	80-75	33-53/64	17½	8-1/8 overall	3-47/64	28	12
	80-76	33-59/64	17¾	8-1/8 overall	3-47/64	33	
1 gal. bottle	80-96	135⅝	60	12-9/16 overall	5-63/64	38	4
1 gal. jug	51.98	136	48	9-3/8 bottom to neck bead	6-41/64	38	

NOTES:

1. Finishes are interchangeable in accordance with provisions of the order.

2. When lower glass weights are used, adjustment to make correct capacity shall be made in the "B" dimension.

3. Profiles similar to those illustrated for Exhibit Series 80-00 for Boston Round Bottles and Series 51-00 for Glass Jugs as shown in WPB Limitation Order L-103 shall be maintained consistent with "C" and "D" dimensions.

4. Containers shall be round.

5. Bottom stippling optional.

Floor Wax Specification

Official Specification and Standard Test Method of The National Assn. of Insecticide and Disinfectant Mfgrs.

A SPECIFICATION and standard method of testing for water emulsion floor waxes was adopted by the National Association of Insecticide & Disinfectant Manufacturers at a meeting in Cleveland, June, 1943. Specification and method follows:

SPECIFICATION FOR WATER-DISPERSION FLOOR WAX

Applicable to Waxes of from 10 to 15% Total Solids

A. General Requirements

1. The material shall be suitable for application to all sealed floors and floor coverings in general.

2. The material shall be a stable aqueous colloidal dispersion of waxes and other suitable substances. The composition and properties of the material shall be such that it will meet all of the provisions of the detailed requirements, when tested by the NAIDM test methods.

3. When applied in accordance with the manufacturer's direction, the material shall dry to a lustrous finish without polishing.

B. Detailed Requirements

1. *Sediment.* The material shall be a fluid dispersion containing not over 4 per cent sediment, the percentage being calculated on the basis of total solids.

2. *Stability.* The material shall show no gelling or creaming when kept in closed containers at 52° C. (125° F.) for 168 hours (7 days).

3. *Application.* The material is to be applied as a thin, uniform film to clean dry flooring surfaces.

4. *Color and Transparency.* A thin, dried film of the material, prepared by flowing onto a clear glass plate and drying in air at 25° C. (77° F.), shall be substantially transparent and practically colorless, as viewed by transmitted bright daylight.

5. *Leveling and Spreading.* The material, when applied as a thin, uniform film on new linoleum shall dry without streaking.

6. *Lustre or Gloss.* The dried film shall increase the gloss of new linoleum not less than 10 per cent, as measured by a light reflectance meter.

7. *Alkalinity.* The material shall not have a pH greater than 10.0 nor less than 4.0.

8. *Surface Tension.* The material shall have a surface tension not greater than 33 dynes per centimeter at 25° C. (77° F.).

9. *Flexibility of Film.* The dried film shall be sufficiently flexible so that no cracking will occur when a 2 coat application, on new linoleum, dried 48 hours at 25° C. (77° F.) and 50 per cent relative humidity is bent, through 180° around a 2 inch diameter mandrel.

10. *Abrasion Resistance.* The dried film shall have an abrasion index (Taber cycles divided by weight of film in mgs. per sq. cm.) of not less than 100 when tested on glass plates using a Taber Abraser (Model J or equivalent) with Taber CS-10 Calibrase wheels.

11. *Tackiness and Slipperiness.* The dried film shall be neither soft and sticky nor excessively slippery.

12. *Water Resistance.* The dried film on a specified surface, after 48 hours at 25° C. (77° F.) and 50 per cent relative humidity shall be resistant to cold water. The film shall not be permanently whitened or damaged by contact with water for one hour at 25° C. (77° F.). The film shall not be removed by damp mopping with a soft rag using clear water at 25° C. (77° F.).

13. *Removal of Film.* A film dried for 48 hours at 25° C. (77° F.) and 50 per cent relative humidity, on new linoleum, shall be easily removable by moderate scrubbing with a soft bristle brush, using an aqueous detergent solution, containing 0.25 per cent tallow soap chips and 0.25 per cent aqua ammonia (28 per cent NH^3) at a temperature of 50° C. (122° F.).

N.A.I.D.M. PROPOSED STANDARD METHODS FOR TESTING WATER-DISPERSION FLOOR WAX

Purpose

The purpose of compiling a more or less complete set of methods for testing water-dispersion floor wax is to make available to the manufacturer, user or other interested persons suitable procedures which have proven to be best adapted for the purpose intended. It is the further purpose to limit the methods more or less to tests designed to evaluate performance properties rather than to determine composition data. There is a need for such standard methods because even on such a simple test as total solid content, there is a possibility of widely divergent results unless great attention is paid to small details. At present there are no methods accepted as standard by any association or group except as such methods may be part of a specification. Standard methods of testing will make it possible to eliminate controversies which are now inevitable.

Methods of Testing

1. *Sediment.* Mix the original sample well and pour a 100 cc. portion into a graduated A.S.T.M. water and sediment tube. Centrifuge for 15 minutes at approximately 2,000 r.p.m. Read directly volume of sediment in mls.

2. *Stability.* Measure viscosity of original sample at 25° C. (77° F.) using Oswald type pipet viscosimeter. Pour 100 ml. of the original sample into a 4 oz. bottle approximately 35 mm. inside diameter. Close the bottle securely with a clean cork and allow it to stand undisturbed in an upright position at 52° C. (125° F.) for 168 hours. At the end of this time, cool to room temperature, measure viscosity as before and observe for any creaming, separation or gelling.

3. *Total Solids.* Use a porcelain capsule crucible approximately 5 cm. in diameter and 1 cm. deep for the determination. Heat the capsule to dull red heat, cool in a desiccator, and weigh to the nearest tenth of a milligram. Place in the capsule a sample of from 2 to 3 grams accurately weighed to the nearest milligram, taking suitable precautions to avoid error due to loss of weight by evaporation during transfer and weighing of the sample. Heat the capsule containing the sample on a steam bath for 1 hour, then transfer it to a drying oven and heat for 3 hours at 105° to 110° C. (221° to 230° F.). Cool the capsule in a desiccator and weigh to the nearest tenth of a milligram. Multiply the weight of non-volatile matter by 100 and divide by the weight of the sample to obtain the percentage of non-volatile matter.

4. *pH Value.* Determine the pH of the sample at 25° C. (77° F.) using a glass electrode pH meter without application of correction for sodium or potassium ion concentration.

5. *Surface Tension.* The surface tension of the sample at 25° C. (77° F.) may be determined by one of the reliable, established methods for this determination. The ring detachment method is preferred for this test on water-dispersion waxes. Instruments suitable for determination of the surface tension of water-dispersion floor waxes include the Cenco-du Nouy Tensiometers described in Bulletin 101 of the Central Scientific Company.

6. *Leveling and Spreading.* Test panels, 3 x 6 inches, of new brown linoleum of good quality and either ⅛ or ¼ inch in thickness shall be used. Before applying the water-dispersion wax to these test panels, thoroughly re-

move any wax coating. Usually this can be done by soaking for five minutes at 50° C. (122° F.) in an aqueous solution containing 0.25 per cent by weight of 88-92 per cent tallow chip soap and 0.25 per cent by weight of 28 per cent aqua ammonia, scrubbing the top surface of the test panels gently with a soft bristle brush or cloth saturated with the above detergent solution at 40°-50° C. (104°-122° F.), rinsing the test panels thoroughly with water at 40°-50° C., draining and wiping the top surface dry with soft clean cloths.

Apply some of the sample to one of the cleaned linoleum test panels, using a small, clean mohair applicator just saturated with the sample, and applying it with light, uniform, overlapping parallel strokes. Note leveling and spreading properties from appearance of dried film.

Place coated linoleum specimen in desiccator or chamber in which humidity is controlled at 50 per cent relative humidity (see Note 1) at a temperature of 25° C. (77° F.) for 48 hours. Then apply a second coat of sample using same technic as above. Note any re-emulsification on applying second coat and leveling and spreading properties from appearance of dried film.

If flexibility of film is required, test can be carried out on same test panel.

7. *Drying Time.* Flow a uniform film of the sample over the surface of a clear glass plate which has been cleaned by immersion in chromic acid cleaning solution followed by thorough rinsing with clear water. Incline the test plate at an angle of 45° to the horizontal and allow it to drain and dry in this position in air maintained at a temperature of 25° C. (77° F.) and 50 per cent relative humidity. Observe time required for film to become dry to touch at a point 15 mm. above lower horizontal edge. Express drying time as period required to nearest minute. If transparency of film is required, observation can be made on this same test panel.

8. *Gloss or Lustre.* Use a gloss meter consisting of a light source, of constant intensity, directing a substantially parallel beam at the surface to be tested at an angle of incidence of 45°; a photocell, with a spectral-response curve approximating the ICI standard luminosity curve, placed to intercept the reflected beam at an angle of reflection of -45°; a sensitive galvanometer for measuring the e.m.f. generated by the photocell. A meter of this description is supplied by Pfaltz & Bauer, Inc., New York City. Calibrate the gloss meter by placing it on an optical flat, made of glass with an index of refraction of nD = 1.5172, 8 mm. thick, with a fine ground back resting on a non-reflecting black surface. Check the instrument before and after all readings on test panels.

Select a test panel of new brown linoleum from which all wax has been thoroughly removed and record the gloss of the test panel. Flow a uniform film of the sample onto this test panel, drain and dry at an angle of 45° in air at a temperature of 25° C. (77° F.) and 50 per cent relative humidity for a period of 24 hours, then measure the gloss of the dried film on the test panel with the calibrated gloss meter. Subtract the gloss reading of the test panel from the gloss reading of the dried film on the test panel, multiply the difference by 100, and divide by gloss reading of the test panel to give the percentage increase in gloss.

As an alternative method particularly intended for control testing, it is proposed that a standard test solution consisting of ammonia-water-shellac or sugar in water be developed so that such solution when applied to a linoleum surface will produce a gloss equivalent to an increase of 100 per cent as determined by the gloss meter.

9. *Transparency of Film.* Clean a piece of clear plate glass using chromic acid cleaning solution and rinse thoroughly. Flow a uniform film of the sample onto one surface of this glass, and allow it to drain and dry at an angle of 45° in air at a temperature of 25° C. (77° F.) and 50 per cent relative humidity. Observe the dried film from the under side of the glass plate by transmitted bright daylight.

10. *Flexibility of Film.* Prepare linoleum test panel with 2 coats of sample exactly as described under Leveling and Spreading. Alternately the same test panel may be used for both tests. Determine the flexibility of the film at 25° C. (77° F.) and 50 per cent relative humidity by bending the test panel, with the treated surface on the outside, around a mandrel 2 inches in diameter, through an arc of 180°. Observe the film for any cracking or chipping.

11. *Abrasion Resistance.* Prepare three discs of ⅛" thick, clear plate glass, each 4" in diameter with a ¼" diameter hole in the center. Clean the discs by the method specified for linoleum test panels. By means of two glass cylinders, one 2" in diameter and one 3⅞" in diameter, with lower ends ground exactly at right angles to their axes, and dipped into melted paraffin, apply two rings of paraffin to the upper surface of each disc, concentric with the center hole, being careful to avoid contaminating the cleaned glass surface between the two rings. Determine the area of the glass surface between the two paraffin rings in sq. cm. by actual measurement with an accuracy of ± 2 per cent. Mark each glass disc for identification, and weigh each accurately in air at 25° C. (77° F.) and 50 per cent relative humidity. Coat the surface between the two paraffin rings on each disc with a thin uniform film of the original sample by applying between 0.5 and 1.0 ml. of the original sample of water-dispersion wax from a 1 ml. pipette and spreading it uniformly over the entire surface between the paraffin rings with the tip of the pipette. Dry the coated discs in a horizontal position in air at 25° C. (77° F.) and 50 per cent relative humidity for 24 hours, and weigh the discs again accurately under these conditions. Subtract the original weight and divide the difference in milligrams by the area of the wax film in sq. cm. to give the weight of coating in mg. per sq. cm. Abrade the coating on each disc, at 25° C. (77° F.) and 50 per cent relative humidity, on a Taber Abraser, Model J, using Taber CS-10 Calibrase wheels, until the coating has been worn away from approximately 50 per cent of the area of the abrasion track. Clean the wheels by ten cycles on the carborundum paper cleaning discs after each 100 cycles on the wax surface. Subtract the total number of cleaning cycles from the total number of cleaning and abrading cycles. Divide the number of abrasion cycles required for each disc by the weight of the dried coating in mg. per sq. cm. on that disc to give the wear resistance index.

12. *Tackiness and Slipperiness.* No satisfactory method has yet been developed.

13. *Water Resistance.* Prepare a test panel on cleaned new linoleum in the manner described under Leveling and Spreading. Place a large drop of distilled water, 1 to 2 cm. in diameter on the treated surface of the test panel. Allow to stand undisturbed for one hour in air at 25° C. (77° F.) and 50 per cent relative humidity. Shake off any remaining water. Observe whether the wax film is damaged or appreciably whitened by the water. Note whether any visible spotting of the film disappears on drying for ½ hour at 25° C. (77° F.) and 50 per cent relative humidity.

14. *Resistance to Damp Mopping.* Wet a clean soft cloth with clear water at 25° C. (77° F.). Wipe the entire treated surface of the test panel used in the Water Resistance test with this wet cloth, exerting moderate pressure and wiping five times at intervals of 2 seconds. Then wipe the test panel dry with a clean, soft, dry cloth. Observe whether the wax film is removed by this process.

15. *Removability.* Prepare a test panel on cleaned new linoleum in the same manner described under Leveling and Spreading. After aging panel for 48 hours, immerse it in detergent solution same as specified under Leveling and Spreading, for 5 minutes at a temperature of 50° C. (122° F.). Then, with a test panel still immersed, scrub its treated surface moderately with a soft bristle brush, making at least 10 strokes of the brush with moderate hand pressure across each portion of the treated surface. Remove the test panel from the detergent solution, rinse it thoroughly with clear water at 40°-50° C. (104°-122° F.), and wipe dry with a soft, clean cloth. Observe the panel for completeness of removal of wax film after drying.

Note 1. A saturated solution of calcium nitrate ($Ca(NO^3)^2.4H^2O$) at 25° C. (77° F.) gives 50 per cent relative humidity.

Perfuming Material Specifications

Specifications and Standards Prepared By The Essential Oil Association for Several Important Essential Oils

BOOK OF SPECIFICATIONS & STANDARDS NOTES

Descriptive Characteristics: The statements concerning descriptive characteristics given in the individual monographs are not intended as standards or tests for purity.

Specific Gravity: Unless otherwise specified the figure $\frac{15^\circ\ C.}{15^\circ\ C.}$ is used as the basis for the specifications and standards that follow. A correction factor of .0007 must therefore be applied for each degree.

Optical Rotation: The figures given in the monographs are at room temperature approximately 20° C.

Refractive Index: The figures given are at room temperature approximately 20° C. unless otherwise specified.

Solubility: The figure given in the monographs are at 25° C. unless otherwise specified.

Mineral Oil: The mineral oil used in the solubility definition has a viscosity at 100° C. of $\frac{65}{75}$

Solvents: The solubility in fixed and volatile oils, and in such solvents as mineral oil, benzyl benzoate, glycerine and propylene glycol appearing in the monographs are listed, for the sake of uniformity, in alphabetical order.

GENERAL TESTS:

A—Determination of Esters

Place the quantity of sample mentioned in each separate monograph, in a tared, 125-cc, Erlenmeyer flask, and weigh it accurately. Add 25-cc of half-normal alcoholic potassium hydroxide, connect the flask with a reflux condenser, and boil the mixture on a water bath for exactly one (1) hour, unless otherwise specified. Allow the mixture to cool, and titrate the excess of alkali with half normal sulfuric acid, using 10 drops of phenolphthalein T.S. as the indicator. Calculate as prescribed in each individual monograph.

B—Determination of Total Alcohols

Place 10-cc of the sample in an acetylization flask of 100-cc capacity and add 10-cc of acetic anhydride and 1 Gm. of anhydrous sodium acetate. Boil the mixture gently for exactly one (1) hour, cool, disconnect the flask from the condenser, transfer the mixture to a small separator, rinsing the acetylization flask with three successive, 5-cc portions of warm distilled water, and add the rinsings to the separator. When the liquids have completely separated, reject the aqueous layer, and wash the remaining oil with successive portions of sodium carbonate T.S., diluted with an equal volume of distilled water, until the last washing is alkaline to two (2) drops of phenolphthalein T.S.

Dry the resulting oil with anhydrous sodium sulfate and filter. Transfer the quantity of the dry acetylized oil mentioned in each separate monograph, to a tared, 100-cc, Erlenmeyer flask, note its exact weight, add 25-cc of half-normal alcoholic potassium hydroxide, connect the flask with a reflux condenser, and boil the mixture on a water bath for exactly one (1) hour.

Allow the mixture to cool, and titrate the excess of alkali with half-normal sulfuric acid using 10 drops of phenolphthalein T.S. as the indicator. Calculate the per cent of the total alcohols as outlined in each individual monograph.

C—Determination of Linalool

Dimethyl Aniline—Acetyl Chloride Method

10-cc of linalool or essential oil containing linalool, previously dried with sodium sulfate, is introduced into a 125-cc g.s. Erlenmeyer flask cooled with ice and water. To the cooled oil is added 20-cc dimethyl aniline (mono-methyl free) and the contents thoroughly mixed, then 8-cc acetyl chloride (reagent grade) and 5-cc of acetic anhydride are added, the anhydride serving as a solvent to prevent crystallization of the reaction mass. The mixture is cooled for a few minutes and permitted to stand at room temperature for ½ hour after which time the flask is immersed in a water bath maintained at 40° C. ± 1° for three hours. At the end of this time the acetylated oil is washed three times with 75-cc of ice water, then with successive washes of 25-cc of 5% sulfuric acid until the separated acid layer fails to liberate any dimethyl aniline with an excess of caustic. After removal of the dimethyl aniline, the acetylated oil is washed with 10-cc of 10% sodium carbonate and washed neutral with water.

The oil is separated, dried over anhydrous sodium sulfate and the ester value determined in the usual manner. The linalool content can thus be obtained directly from saponification tables or by substitution in the following formula:

$$\% \text{ Linalool} = \frac{\text{cc N/2 KOH} \times 154.14}{20\ (\text{wt. sample} - \text{cc N/2 KOH} \times 0.021)}$$

As this test is further to be used for other oils containing linalool, besides linalool itself, a correction factor is necessary with oils containing significant amount of esters. For such oils, the following standard formula is recommended:

$$\% \text{ Total Linalool} = \frac{A \times 77.07 \times (1 - (E \times .0021))}{B - (A \times 0.021)}$$

where A = cc half-normal alkali required for saponification.

where B = weight of sample.

where E = per cent of esters calculated as linalyl acetate in the original oil.

The test is not applicable to all tertiary alcohols, but only to linalool and linalool containing oils.

D—Hydroxylamine Method for Aldehydes and Ketones

Preparation of Hydroxylamine solution: Triturate 0.1. Gm. of bromophenol blue with 3-cc of twentieth-normal sodium hydroxide. When solution is complete, dilute to 25-cc with distilled water. Dissolve 20 Gm. of hydroxylamine hydrochloride in 40-cc of distilled water, dilute to 400-cc with alcohol, add with stirring 300-cc of half-normal alcoholic potassium hydroxide and 2.5-cc of the bromophenol blue solution, and filter the mixture.

ASSAY METHOD: Add 75-cc of Hydroxylamine solution prepared as above to W gm. (see Note 1.) (accurately weighed of substance to be tested) and mix thoroughly.

For Aldehydes: Allow to stand at room temperature for 15 minutes.

For Ketones: Reflux gently for one hour using a water condenser or an air condenser at least 30 inches long. Cool to room temperature. (See Note 2.)

Titrate to the greenish-yellow end point of Bromophenol Blue using one-half normal hydrochloric acid. Perform a blank determination using 75-cc of the hydroxylamine solution. Subtract the num-

ber of cc of half-normal hydrochloric acid used in the titration of the sample from the number of cc used in the blank.

$$\% \text{ Aldehyde or Ketone} = \frac{N \times .05\ M}{W}$$

where N is difference in cc of 0.5 N HCL between blank and sample obtained above.

M is molecular weight of aldehyde or ketone in terms of which results are to be calculated.

W is weight of sample used.

Note 1: The weight of sample W should be such that the cc of Hydrochloric Acid required for the titration of the flask containing the sample is slightly more than half the cc required to titrate the blank. This weight W will be given under each individual monograph, based on the use of relatively fresh hydroxylamine solution which will give a blank titration of over 30-cc of one-half normal Hydrochloric Acid. The solution has a tendency to lose strength on standing more than about 10 days.

Note 2: Some aldehydes or ketones have been found to require longer standing or heating. In such cases the change will be noted under the individual monograph.

Note 3: The value of the factor .05 M in the above formula for calculation of percentage is given under the individual monographs.

E—Determination of Acid Value

Dissolve approximately 10 gms. of the sample, accurately weighed, in 50 cc. of alcohol (previously neutralized to phenolphthalein with N/10 sodium hydroxide). Add 1 cc. of a 1% alcoholic phenolphthalein solution and titrate with N/10 sodium hydroxide until the solution remains faintly pink after 30 seconds of shaking. The cc of N/10 alkali required to neutralize the sample multiplied by 5.6 and divided by the weight of sample expressed in grams, indicates the Acid Value of the sample taken.

F—Determination of Evaporation Residue

Place the quantity of sample specified in the individual monograph in a tarred 100 cc. glass evaporating dish, previously heated on a steam bath and cooled to room temperature in a desiccator and weigh it accurately. Heat the evaporating dish containing the oil on a steam bath for the length of time specified in the individual monograph. Allow the dish and contents to cool to room temperature in a desiccator and weigh accurately. Determine the weight of the residue and express as a percentage of the oil originally taken.

G—Determination of Chlorinated Compounds

At the end of a copper wire bend a strip of 20 mesh copper gauze 1.5 cm. wide and 5 cm. long. Place the strip in the nonluminous flame of the Bunsen Burner until it glows without imparting a green color. Cool the gauze and repeatedly ignite it until an oxide coating has formed. To apply the test, cool the gauze and add 2 drops of the sample by means of a medicine dropper, permitting it to burn in the air. Again cool and add 2 more drops of the test material and burn as before. Continue the procedure until six drops have been ignited. When completed, if the gauze is held in the outer edge of the burner to a height of about 4 cm., the flame should be free of even a transient green color.

Specifications and Standards for Oil Bois de Rose Brazilian

Other General Name

Oil Rosewood.

Botanical Nomenclature

1. Indefinite.
2. Possibly:

(a) ANIBA ROSAEODORA var. Amazonica (Ducke), Family: Lauraceae.

(b) ANIBA PARVIFLORA (Mez), Family: Lauraceae.

(c) OCOTEA CAUDATA (Mez.) (LICARIA GUIANENSIS) (Aubl.), Family: Lauraceae.

(d) PROTIUM (ICICA) ALTISSIMUM (March), Family: Burseraceae.

Preparation

By steam distillation of wood.

Physical and Chemical Constants

Specific Gravity @ 15°C.. 0.8750—0.8950
Optical Rotation ..... —4° to + 5°
Refractive Index @ 20°C. 1.4620—1.4685
Total Alcohols: ..... 84 to 92%

Proceed as directed for the determination of Linalool and oils containing Linalool. (See C.) Use approximately 1.2 gms. of acetylized oil accurately weighed for the subsequent saponification.

Solubility—Soluble in some dilution between 3.5 and 6 volumes of 60% alcohol and in 2 volumes of 70% alcohol.

Color and appearance—Pale yellow to yellow liquid.

Descriptive Characteristics

Stability:

Alkali: Relatively stable to alkali, although some change takes place.

Acids: In the presence of some organic acids esterfication of the alcohol takes place. In the presence of many strong inorganic acids, decomposition takes place. Degree of change depends upon conditions.

Solubility

Benzyl Benzoate: Generally soluble.

Fixed Oils: Soluble in all proportions in most fixed oils.

Glycerine: Slightly soluble.

Mineral Oil: It is usually soluble in ½ volume of mineral oil, but sometimes becomes opalescent to turbid; when further additions of the solvent are made.

Propylene Glycol: Soluble in all proportions.

Containers

Should be shipped in glass, tin lined or aluminum containers. Good quality galvanized containers are suitable when long storage is not contemplated.

Storage

Store preferably in well stoppered full containers, in a cool place protected from light.

Specifications and Standards for Oil Petitgrain Paraguay

Other General Names

Oil Petitgrain South American.

Botanical Nomenclature

Citrus bigaradia, Risso.

Preparation

Obtained by steam distillation from the leaves and twigs of the bitter orange tree; at times the fruit adhering to the branches is distilled with it, indicated by a dextrorotation due to some peel oil.

Physical and Chemical Properties

Color: Yellowish to slightly brown.

Specific Gravity @ 15° C.: 0.885 to 0.895.

Optical Rotation: Mostly laevorotatory up to —3° sometimes dextrorotatory up to + 3°.

Solubility: Soluble at some dilution between 2 and 4 volumes of 70% alcohol; however, upon further dilution it frequently becomes opalescent or turbid.

Refractive Index @ 20° C.: 1.4580 to 1.4650.

Esters: 45% to 55% (occasionally as low as 40% and as high as 60%).

Proceed as directed for the determination of esters (see A), using approximately 2 grams of the oil, accurately weighed. The number of cc. of 0.5 N alcoholic potassium hydroxide consumed in the saponification, multiplied by 0.0981, indicates the number of grams of esters, calculated as linalyl acetate, in the oil taken for assay.

Descriptive Characteristics

Stability:

Alkali: Unstable in alkalies due to the hydrolysis of some of the esters and the liberation of free linalool and other alcohols.

Acids: In the presence of some organic or inorganic acids a change is noted, degree of change depending upon conditions.

Solubility:

Benzyl Benzoate: Soluble in all proportions.

Fixed Oils: Soluble in all proportions in most fixed oils.

Glycerine: Slightly soluble.

Mineral Oil: Usually soluble with opalescence or turbidity.

Propylene Glycol: Usually soluble with opalescence.

Containers

Should be shipped preferably in glass, tin-lined, or aluminum containers. Good quality galvanized containers are suitable when long storage is not contemplated.

Storage

Store preferably in well-stoppered, full containers, in a cool place protected from light.

Specifications and Standards for Oil Spike

Other General Names

Oil Lavender Spike.
Oil Lavender Spanish.
Oil Spanish Spike.
Oil Aspic.

Botanical Nomenclature

Lavandula latifolia, Vill. (Lavandula Spica D.C.), Family: LABIATAE.

Preparation

By steam distillation of the flowers.

Physical and Chemical Constants

Color and appearance: Oil Spike is a pale yellow to yellow liquid, having a camphoraceous, lavender-like odor.

Specific Gravity @ 15° C.: 0.900—0.915.

Optical Rotation:—5° to + 5°.

Refractive Index 20° C.: 1.4630 to 1.4680.

Esters as Bornyl Acetate: 1.5 to 3.0%.

Proceed as directed for the determination of esters, see A, using approximately 10 grams of Oil Spike, accurately weighed. The number of CC of half normal alcoholic potassium hydroxide consumed in the saponification, multiplied by 0.0981, indicates the number of grams of esters calculated as Bornyl Acetate (C_{10} H_{17} C_2 H_3 O_2) in the oil taken for assay.

Total Alcohols as Borneol: 30-40%.

Proceed as directed for the determination of total alcohols, Page B, using approximately 2.5 grams of the acetylized oil, accurately weighed, for the subsequent saponification. Calculate the per cent of total alcohols as Borneol by the following formula:

Per Cent of total Borneol (C_{10} H_{17} OH) in the oil tested

$$\frac{A \times 7.712}{B-(A \times 0.021)} \times [1-(E \times 0.0021)]$$

A is the result obtained by subtracting the number of cc of half normal sulphuric acid required in the titration from the number of cc of half normal alcoholic potassium hydroxide originally taken.

B is the weight of acetylized oil taken, and E is the per cent of esters calculated as Bornyl Acetate.

Solubility in Alcohol: Soluble in some dilution between 1 and 3 volumes of 70% alcohol, however, upon further dilution it frequently becomes hazy.

Descriptive Characteristics

Stability:

Alkali: Relatively stable to alkali, although some change takes place.

Acids: Fairly stable to weak acids.

Solubility:

Benzyl Benzoate: Soluble in all proportions.

Fixed Oils: Soluble in all proportions in most fixed oils.

Glycerin: Slightly soluble.

Mineral Oil: Usually forms cloudy solutions.

Propylene Glycol: Soluble in all proportions.

Containers

Should be shipped preferably in glass, tin-lined or aluminum containers. Good quality galvanized containers are suitable when long storage is not contemplated.

Storage

Store preferably in well stoppered full containers, in a cool place protected from light.

Hydroxycitronellal

$C_{10}H_{20}O_2$ Mol. Wt. 172.26

CH_3 H OH H H CH_3 H

$>C-C-C-C-C-C-COH$

CH_3 H H H H H

(Various other structures are suggested)

Preparation

Obtained by the hydration of citronellal. The basic citronellal used may be from any source such as the optically active variety from Java Citronella or the optically inactive variety from Eucalyptus Citriodora.

Physical and Chemical Constants

Color and appearance: Viscous colorless liquid having a sweet odor of the lily type.

Specific Gravity @ 15°C.: 0.925 to 0.930.

Optical Rotation: Depends upon the optical activity of the raw material. When prepared from the Java type + 9 to + 10.5; when prepared from Eucalyptus Citriodora type + 0.5 to — 0.5.

Refractive Index @ 20°: 1.448—1.450.

Hydroxycitronellal Content: Not less than 95%. (See D.)

Assay — Hydroxycitronellal determination:

Proceed as directed in the hydroxylamine method for aldehydes (see D) using approximately 1.3 gm. of sample, accurately weighed. The difference in the cc of N/2 HCl required for both titrations multiplied by 0.0861 indicates the weight in grams of Hydroxycitronellal in the sample taken for assay.

Solubility in Alcohol: Soluble in 1½ and more volumes of 50% alcohol. Soluble in all proportions of 60% alcohol.

Bisulfite Test for non-aldehydic impurities: Add 9 cc of $NaHSO_3$ solution* to .5 cc Hydroxycitronellal. Shake vigorously for one minute. Clear solution should be obtained (terpenes). Solution should have no minty odor (isopulegol).

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* (Bisulfite Solution—Prepare a fresh solution of 30% $NaHSO_3$ anhydrous by weight. To this add 4% of 10% Na_2CO_3 solution to cut down free SO_2. Solution to be filtered clear before use if necessary.)

Descriptive Characteristics

Stability:

Acids: Easily resinified by acids.

Alkali: Easily resinified by strong alkali.

Oxidation: Very readily oxidized by exposure to air.

Solubility:

Benzyl Benzoate: Soluble in all proportions.

Diethyl Phthalate: Soluble in all proportions.

Fixed Oils: Soluble in all proportions in most fixed oils.

Glycerin: Slightly soluble.

Mineral Oil: Slightly soluble.

Propylene glycol: Soluble in all proportions.

Water: Slightly soluble (app. 5%).

Containers

Should be shipped preferably in glass, tin-lined or aluminum containers. Galvanized containers not recommended.

Storage

Store preferably in well-stoppered, full containers in a cool place protected from light.

Specifications and Standards For OIL LEMONGRASS

Other General Names:

There are basically two types of Lemongrass Oil commercially available: the East Indian and "West Indian" type oil.

The East Indian Oil is also known as Cochin, Native and British Indian Lemongrass Oil.

The "West Indian" type oil appears on the market designated according to geographic origin as Madagascar, Guatemala, Honduras or Florida Lemongrass Oil, etc.

Botanical Nomenclature:

East Indian Oil: Cymbopogon flexuosus (Stapf). Andropogon nardus var. flexuosus (Hack.).

"West Indian" type Oil: Cymbopogon citratus (Stapf). Andropogon nardus var. ceriferus (Hack.).

Preparation:

By steam distillation of the freshly cut and partially dried grasses.

Physical & Chemical Constants: East Indian Oil:

Color and Appearance: The East Indian Oil is generally dark yellow to light brown-red in color and has a pronounced heavy lemon-like odor.

Specific Gravity 15°/15° C. 0.900-0.910.

Optical Rotation —3° to +1°.

Refractive Index @ 20° C. 1.4830-1.4890.

Citral Content:

A. Acid Sulfite Method—Not less than 75%.

Solubility—Solubility in 2 to 3 volumes of 70% alcohol, often with slight turbidity.

"West Indian" Type Oil:

Color and Appearance: The "West Indian" type Oil varies from light yellow

to light brown or orange. Its odor is lemon-like but of lighter character than the East Indian.

Specific Gravity 15°/15° C. 0.875-0.900.

Optical Rotation —3° to +1°.

Refractive Index @ 20° C. 1.4830-1.4890.

Citral Content:

A. Acid Method—Not less than 75%.

Solubility—Yields cloudy solutions in 70, 80, 90 and 95% alcohol.

Assay

A. Acid Sulfite Method: Introduce 10cc of Lemongrass Oil into a 100cc. Cassia flask and add 75cc. of a 30% solution of sodium metabisulfite. Heat the mixture in a water bath to 85° and shake the flask intermittently for one-half to one hour. Then add sufficient bisulfite solution to raise the meniscus within the graduated portion of the flask. On cooling, the volume of insoluble oil expressed in per cent subtracted from 100 represents the citral content.

Descriptive Characteristics

Stability:

Alkali: Lemongrass oils slowly decompose in the presence of alkalis.

Acids: Strong inorganic acids tend to polymerize the oil. Weak organic acids have less effect.

Solubility:

Propylene Glycol: The East Indian oil is soluble in all proportions of propylene glycol with slight turbidity or cloudiness.

The "West Indian" type oil has limited solubility in propylene glycol (about 10% accompanied by cloudiness).

Mineral Oil: Soluble with cloudiness or turbidity.

Fixed Oils: Soluble in most fixed oils.

Benzyl Benzoate: Soluble in all proportions, generally with slight turbidity.

Diethyl Phthalate: Soluble in all proportions with slight turbidity.

Glycerin: Slightly soluble.

Containers

Should be shipped preferably in glass, aluminum or tin-lined containers. Good quality galvanized containers are suitable, provided long storage is not contemplated.

Storage

Store in full containers and avoid exposure to light and excessive heat.

Specifications and Standards for VETIVER OIL

General Names

The oil of commerce is characterized by its geographical origin.

Vetiver Oil Java—Vetiver Oil Reunion (Bourbon)—Vetiver Oil Haiti.

Botanical Nomenclature

Vetiveria Zizanioides Stapf.

Andropogon Muricatus Retz.

Preparation

By steam distillation of partially dried roots.

Physical and Chemical Constants

Odor: Aromatic—somewhat woody.

Color and Appearance: Brownish to a reddish-brown viscous liquid.

Specific Gravity @ 15° C: 0.990 to 1.040.

Optical Rotation: + 15° to + 45°.

Refractive Index @ 20° C: 1.5200 to 1.5280.

Solubility:

Soluble in 1 to 3 vols. of 80% alcohol, sometimes opalescent or slightly turbid upon further dilution.

Descriptive Characteristics

Stability:

Acids: Fairly stable to dilute acids but unstable in the presence of strong acids.

Alkali: Fairly stable to weak alkali. Unstable to strong alkali.

Solubility:

Fixed Oils: Soluble in all proportions in most fixed oils.

Diethyl Phthalate: Soluble in all proportions.

Benzyl Benzoate: Soluble in all proportions.

Mineral Oil: Soluble with slight cloudiness.

Glycerin: Insoluble.

Propylene Glycol: Practically insoluble.

Saponification Value:

See Directions (see G.T.A.) using 5 grams of oil, accurately weighed. The number of cc of N/2 alkali consumed in the saponification multiplied by 28.05 and divided by the weight of sample taken equals Saponification Value.

Ester Value After Acetylation:

110 to 165.

See Directions (see G.T.A.) using 2 grams of acetylized oil accurately weighed for saponification. The number of cc of N/2 alkali consumed in the saponification multiplied by 28.05 and divided by the weight of sample taken equals Ester Value after Acetylation.

Containers

Should be shipped preferably in glass or tin-lined containers. Good quality galvanized containers are suitable when long storage is not contemplated.

Storage

Store preferably in tight, full containers in a cool place, protected from light.

Specifications and Standards for OIL OF PATCHOULY

Botanical Nomenclature

Pogostemon Patchouly, Pellet.

Preparation

Direct steam distillation of the dried leaves.

Physical and Chemical Constants

Color and Appearance—a yellow-greenish brown, or brown liquid.

Specific gravity @ 15° C: .950 to .995.

Optical Rotation: —48° to —68°.

Refractive Index a 20° C: 1.5070 to 1.5200.

Solubility—Soluble in 10 vol. of 90% alcohol, usually with opalescence.

Acid Value—not more than 5.

Proceed as directed for the determination of acid value.

(See Determination G.T.E.)

Saponification No.—Not more than 18.

Proceed as directed for the determination of esters. (See Determination G.T.A.) using 5 grams of the oil accurately weighed.

Descriptive Characteristics

Stability:

Stable to weak alkalis and acids.

Solubility:

Benzyl Benzoate: Soluble.

Fixed Oils: Soluble in all proportions in most fixed oils.

Glycerin: Practically insoluble.

Mineral Oil: Soluble with haziness.

Propylene Glycol: Partially soluble.

Containers

Should be shipped preferably in glass or tin-lined containers. Good quality galvanized containers are suitable provided long storage is not contemplated.

Storage

Store in tight, full containers in a cool place, protected from light.

Specifications and Standards for PHENYL ETHYL ALCOHOL

$C_8H_{10}O$ Mol. Wt. 122.16

Preparation

Phenyl Ethyl Alcohol can be prepared from Benzene, Ethylene Oxide, Aluminum Chloride and Hydrochloric Acid; also, from Phenyl Magnesium Bromide and Ethylene Chlorohydrin or from Chlorobenzene, Magnesium and Ethylene Chlorohydrin or Ethylene Oxide.

Physical and Chemical Constants

Color, Appearance and Odor—Colorless, viscous liquid with a rose odor.

Specific Gravity @ 25° C. 1.017 to 1.020.

Refractive Index @ 20° C. 1.5310 to 1.5330.

Halogens—Negative. Proceed as directed for the determination of Chlorinated Compounds (See Determinations G.T.G.).

Water Solubility—2.0 cc. should be clearly soluble in 100 cc. of distilled water at 25° C. after thorough shaking.

Descriptive Characteristics

A satisfactory quality of Phenyl Ethyl Alcohol should not reveal any chemical off-odor when two cc. are stirred up in 20 cc. of ice cold odorless water.

Solubility:

Benzyl Benzoate: Very soluble.

Diethyl Phthalate: Very soluble.

Fixed Oils: Very soluble.

Alcohol: Very soluble.

Mineral Oil: Slightly soluble.

Propylene Glycol: Very soluble.

Glycerin: Very soluble.

Water: Sparingly soluble.

Stability:

Acids and Alkalis: Very stable in closed containers. Quite stable with mild alkali or acid at ordinary temperatures and conditions as encountered in the preparation and storage of cosmetics and soaps.

Containers

Should be shipped in tin-lined or galvanized drums or in glass.

Storage

Should be stored in tight containers reasonably well protected against direct light.

Specifications and Standards For TERPINYL ACETATE

$C_{10}H_{17}.O_2C_2H_3$ Mol. Wt.: 196.28

Preparation

Acetylation of terpineol.

Physical & Chemical Constants

Color and appearance: Colorless liquid having an odor suggestive of bergamot and lavender.

Specific gravity at 15° C.: 0.958 to 0.968.

Optical rotation: between —0°30′ and +0°30′.

Refractive index @ 20° C.: 1.4640 to 1.4660.

Ester Content: 97-100% (calculated as terpinyl acetate).

Method: Proceed as directed for the determination of esters, (see A), using **approximately 1.0 g of sample accurately** weighed. Reflux the mixture on a water bath for exactly two hours. The number of cc. of half normal potassium hydroxide consumed in the saponification, multiplied by 0.0981 indicates the number of grams of ester calculated as Terpinyl Acetate in the sample taken for assay.

Solubility in alcohol: Soluble in 5 or more volumes of 70% alcohol.

Descriptive Characteristics

Solubility:

Fixed Oils: soluble in all proportions.

Diethyl Phthalate: soluble in all proportions.

Benzyl Benzoate: soluble in all proportions.

Mineral Oil: soluble in all proportions.

Water: slightly soluble, approx. 0.1%.

Glycerin: slightly soluble, approx. 0.1%.

Stability:

Acids: Not very stable; strong acids transform terpinyl acetate into terpenic products.

Alkali: Stable in neutral and weak alkaline media; strong alkalis saponify the ester.

Oxidation: Stable.

Containers

Terpinyl acetate should be shipped in glass, tin, aluminum, galvanized iron.

Specifications and Standards For TERPINEOL

$C_{10}H_{18}O$ Mol. Wt.: 154.24

Formula: Mixture of Isomers

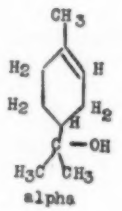
Preparation

Obtained from terpin hydrate by splitting off the elements of water by chemical means.

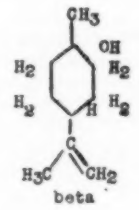
Physical & Chemical Constants

Color and appearance: Colorless liquid, viscous at room temperature, having an odor of the lilac type.

Specific gravity @ 15° C: 0.936 to 0.941.



alpha



beta

Optical rotation: between —0°10′ and +0°10′.

Congealing temperature: all products should crystallize when seeded at +2° C.

Boiling range: 214°-224° C.; 90% within 5° C.

Refractive index @ 20° C.: 1.4825-1.4850.

Solubility in alcohol: soluble in 2 and more volumes of 70% alcohol; 4 and more volumes of 60% alcohol, 8 and more volumes of 50% alcohol.

Descriptive Characteristics

Solubility:

Diethyl Phthalate: soluble in all proportions.

Benzyl Benzoate: soluble in all proportions.

Mineral Oil: soluble in all proportions.

Water: slightly soluble; approx. 0.5%.

Water in Terpineol: slightly soluble; approx. 5%.

Glycerin: slightly soluble; approx. 0.5%.

Stability:

Acids: not stable; terpineol transformed into terpenic products.

Alkali: stable in neutral and moderately alkaline media.

Oxidation: relatively stable.

Containers

Terpineol should preferably be shipped in glass, tin, aluminum, galvanized iron, clean black iron.

Specifications and Standards For HELIOTROPINE

$C_8H_6O_3$ Mol. Wt.: 150.13

Heliotropine, piperonal, piperonyl aldehyde, protocatechuic aldehyde methylene ether, 3-4 methylene dioxybenzaldehyde.

Grades: Perfumery grade.

Preparation

Oxidation of isosafrol.

Uses: Heliotropine is widely used in soap perfumery. Aids in the making of carnation, violet, lilac, sweet pea and muguet types. An indispensable base for all heliotrope perfumes and bouquets.

Physical & Chemical Constants

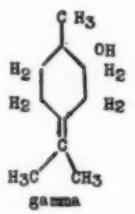
Color and appearance: Fine, white, lustrous crystals.

Odor: A sweet, fine, flowery note resembling heliotrope, free of safrol by-odors.

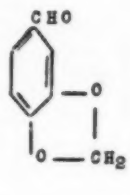
Congealing Point 35.° C. minimum.

Melting Point: 35.5°-37° C.

Aldehyde content: 99.0% minimum calculated as Heliotropine.



gamma



Assay

Heliotropine Determinations

Proceed as directed in D, using approximately 1.5 gram sample, accurately weighed. Reflux gently for one-half hour. The difference in the cc. of N/2 HCl required for both titrations multiplied by 0.0751 indicates the weight in grams of Heliotropine taken for assay.

Descriptive Characteristics

Stability

When stored at temperatures approximating its melting point, the product tends to fuse and discolor.

Acids: Stable to dilute acids at ordinary temperatures.

Alkali: Stable to dilute alkali at ordinary temperatures.

Oxidation: Relatively resistant to oxidations; oxidizes very slowly to piperonylic acid.

Solubility

Alcohol: soluble in 3 to 4 cc. of 70% alcohol.

Benzyl Benzoate: V.S.

Diethyl Phthalate: V.S.

Fixed Oils: F.S. in most fixed oils.

Glycerin: Insol. (less than 1 part per 100).

Mineral Oil (Carnation white): Sp. Sol.

Propylene Glycol: F.S.

Volatile Oils: F.S. to S. in most volatile oils.

Water: Insol. (less than 1 part per 100).

The figures given are at 25° C. unless otherwise noted. Relative cc. of solvent for 1 gram of Heliotropine.

Very soluble (V.S.): less than 1 cc. of solvent.

Free soluble (F.S.): from 1 to 10 parts of solvent.

Soluble (S): from 10 to 30 parts of solvent.

Sparingly soluble (Sp. Sol.) from 30 to 100 parts of solvent.

Containers

1 oz. to 200 lbs., usually packed in fibreboard or pressboard containers and wooden barrels.

Storage

Preserve Heliotropine in a cool, dry place protected from light.

Specifications and Standards for Copaiba Oil

Other General Names

Copaiva oil.
Copaiva Balsam oil.

Preparation

Obtained by distillation of Copaiba Balsam.

Physical and Chemical Constants

The oil is colorless, yellowish liquid having the characteristic odor of Balsam Copaiba and an aromatic, slightly bitter and pungent taste.

Specific Gravity @ 15° C.: 0.886 to 0.912.

Optical Rotation: —2° to —33°.

Refractive Index @ 20° C.: 1.4930 to 1.5000.

Gurjun Oil Test:

Add 5 to 6 drops of sample to 10 cc glacial acetic acid containing 5 drops of nitric acid. When gurjun oil is present a purple violet color develops within two (2) minutes.

Descriptive Characteristics

Stability:

Alkali: Fairly stable.
Acid: Fairly stable.

Solubility:

Benzyl Benzoate: Soluble in all proportions.

Mineral Oil: Soluble in all proportions.

Fixed Oils: Soluble in all proportions.

Diethyl Phthalate: Soluble in all proportions.

Propylene Glycol: Practically insoluble.

Glycerine: Insoluble.

Alcohol: Usually soluble in an equal volume of absolute alcohol, but requires from 5 to 10 volumes of 95% alcohol for complete solution.

Containers

Should be shipped preferably in glass, tin-lined or aluminum containers. Good quality galvanized containers are suitable when long storage is not contemplated.

Storage

Store preferably in tight, full containers in a cool place protected from light.

Specifications and Standards for Oil Citronella Ceylon

Botanical Nomenclature

Andropogon Nardus Ceylon, de Jong.
Cymbopogon Nardus Rendle, lena batu.
Family: Gramineae.

Preparation

Direct steam distillation of the dried grass.

Physical and Chemical Constants

Color and appearance—Yellow to yellowish brown liquid.

Specific Gravity @ 15° C.: —0.898 to 0.910.

Optical Rotation: —9° to —18°.

Refractive Index @ 20° C.: —1.4790 to 1.4850.

Solubility in Alcohol—Clearly soluble at some dilution between 1 and 2 volumes of 80% alcohol. When diluted to 10 volumes, the solution should remain clear or become not more than slightly opalescent with no separation of oil after standing overnight.

Mineral Oil (saturated hydrocarbons) —Negative.

Place 20 cc of fuming sulphuric acid, containing 15% free SO_3 in a graduated, narrow neck Babcock bottle, 50 cc capacity, cool in ice bath 10 minutes, keep bottle in ice bath and add 5 cc of Oil Citronella Ceylon dropwise at such a rate that the bottle remains cold. Incline the bottle and rotate continuously during the addition, which should require about 5 minutes. When no further reaction is apparent remove from ice bath, bringing slowly to room temperature with frequent cautious shaking. Wash down neck with 3 or 4 cc of fuming sulphuric acid.

When no further reaction is apparent on shaking, shake vigorously for 30 seconds. Place bottle in water bath and heat slowly to 60° C. with frequent agitation. (Caution is required, as escaping gas may force some solution from bottle.) Heat at 60°-65° C. for 15 minutes, shaking the contents carefully but vigorously 8-10 times during this period. Remove from bath and without cooling, carefully add sulphuric acid (Specific gravity about 1.84) until the bottle is about three-fourths full. Shake well. No material should adhere to stem and sides at this point; cool to room temperature, add sulphuric acid (Specific gravity about 1.84) until the level is about two-thirds up in neck of flask. Centrifuge 10 minutes at 1,200 revolutions per minute or stand over night and read, centrifuge an additional 10 minutes. Pure Oil Citronella Ceylon should have no readable separation.

Aldehyde Content

7% to 15% calculated as Citronellal.

Proceed as directed in the hydroxylamine method for alhehydes (see Determinations (G.T.D), using approximately 5 grams of the oil, accurately weighed. The difference in the cc of N/2 HCL required for both titrations, multiplied by 0.07712, indicates the weight in grams of Citronellal in the sample taken for assay.

Total Alcohols

55% to 65% (calculated as Geraniol).

Proceed as directed for the determination of total alcohols (see Determinations G.T.B). Observe the following modifications: 1. Use two (2) grams of anhydrous sodium acetate; 2. Immerse the acetylization flask in an oil bath to the level of the liquid in the flask; continue the acetylization for two (2) hours, keeping the bath between 155°-160° C.

Use approximately two (2) grams of the dried acetylized oil, accurately weighed, for the subsequent saponification. Calculate the per cent of Geraniol by the following formula:

Per cent of total alcohols, calculated as Geraniol, in the oil tested =

$$\frac{A \times 7.712}{B - (A \times 0.021)}$$

A is the result obtained by subtracting the number of cc of half normal hydrochloric acid required in the titration from the number of cc of half normal alcoholic potassium hydroxide originally taken. B is the weight of acetylized oil taken.

Descriptive Characteristics

Stability:

Alkali: Relatively unstable in the presence of alkali.

Acids: Unstable, esterification takes place in the presence of some organic acids. Many strong inorganic acids cause decomposition.

Solubility:

Benzyl Benzoate: Soluble in all proportions.

Fixed Oil: Soluble in all proportions in most fixed oils.

Glycerine: Practically insoluble.

Mineral Oil: Usually forms cloudy solutions.

Propylene Glycol: Soluble usually with opalescence or turbidity.

Containers

Should be shipped preferably in glass, tin-lined or aluminum containers. Good quality galvanized or clean black iron containers are suitable when long storage is not contemplated.

Storage

Store preferably in tight, full containers in a cool place protected from light.

Specifications and Standards for Citronella Oil—Java Type

Other General Names

The oil of commerce is generally characterized by the geographic origin, e.g., Java, Guatemala, Formosa, etc., and differs from the Ceylon oil in both composition and odor.

Botanical Nomenclature

Andropogon Nardus (L), Cymbopogon Nardus (Rendle).

Family: Gramineæ.

The grass used for production of the Java type oil is referred to as the "maha pengri" type, as distinguished from the "lena batu," which is used for the production of the Ceylon type oil.

Preparation

By direct steam distillation of the freshly cut or partially dried grasses.

Physical and Chemical Constants

Color and appearance—The Java type Citronella Oil is characterized by a light yellow to tan color, low viscosity, and pronounced aldehydic odor.

Specific Gravity 15°/15° C.: 0.883 to 0.900.

Optical Rotation: —0° 30′ to —6°.

Refractive Index @ 20° C.: 1.4660 to 1.4745.

Total Aldehydes as Citronellal: 30% to 45%.

The aldehyde content of individual drums may show a wide variation; however, bulk shipments are generally required to meet an average minimum citronellal content of 35%.

Total Alcohols as Geraniol: 85% to 97%.

Solubility:

Clearly soluble at all dilutions between 1 and 2 volumes of 80% alcohol and may become opalescent on further dilution.

Assay:

Total Aldehydes as Citronellal:

Proceed as directed in the hydroxylamine method for aldehydes (see Determinations G.T. D), using approximately 2.5 grams of sample, accurately weighed. The difference in the cc of N/2 HCl required for both titrations multiplied by 0.07712 indicates the weight in grams of total aldeyhdes calculated as citronellal in the sample taken.

Assay:

Total Alcohols as Geraniol:

Proceed as directed for the determination of total alcohols (see Determination G.T. B), with the following modifications:

1. Use 2 grams of anhydrous sodium acetate for acetylation.
2. Reflux the resulting acetylation mixture for two hours.

Calculate the percentage of total alcohols as geraniol, employing the following formula:

$$\% \text{ Total Alcohols} = \frac{A \times 7.712}{B - (A \times 0.021)}$$

A is the result obtained by subtracting the number of cc of half normal hydrochloric acid required in the titration from the number of cc of half normal alcoholic potassium hydroxide originally taken.

B is the weight of acetylized oil taken.

Descriptive Characteristics

Stability:

Alkali: Moderately stable to weak alkali at normal temperatures. Unstable in the presence of concentrated alkali at elevated temperatures.

Acids: Decomposes in the presence of mineral acids. Moderately stable to weak organic acids.

Solubility:

Soluble in all proportions with Benzyl Benzoate, Diethyl Phthalate and most fixed oils.

Soluble with cloudiness in mineral oil and Propylene Glycol.

Insoluble in Glycerine.

Containers

Should be shipped preferably in glass, tin-lined or aluminum containers. Good quality galvanized or black iron containers are suitable pr ·ided long storage is not contemplated.

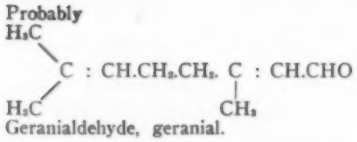
Storage

Store in tight, full containers in a cool place protected from light.

Specifications and Standards for Citral Pure

$C_{10}H_{16}O$ Mol. Wt. 152.12

Probably



Geranialdehyde, geranial.

Preparation

Obtained by reaction with Sodium Sulphite or Bisulphite with further purification by distillation and chemical processes, or can also be prepared by the oxidation of the alcohols such as geraniol, nerol and linalool by means of chromic acid or other oxidizing substances.

Physical and Chemical Constants

Color and appearance—A mobile, pale yellow liquid having a strong lemon odor.

Specific Gravity @ 15° C.: 0.891 to 0.897.

Optical Rotation: Inactive.

Refractive Index @ 20° C.: 1.4860 to 1.4900.

Solubility: Soluble in 7 volumes of 60% alcohol.

Sodium Bisulphite Solubility Test

Introduce 5 cc of Citral into a 100 cc Cassia Flask and add 5 cc of a 30% solution of freshly prepared Sodium Bisulphite. Shake the cassia flask in a water bath for 2 minutes, then add 50 cc of additional bisulphite solution and shake flask in the water bath until completely reacted, which is indicated by an apparently clear solution. Then add enough hot distilled water to raise the meniscus within the graduated portion of the flask. No oil separates when the solution is cooled.

Citral Content

Not less than 97%.

Method: Proceed as directed in the hydroxylamine method for aldehydes (See Determinations G.T. D), using approximately 1 gram of sample, accurately weighed. The difference in the cc of $\frac{N}{2}$ HCL required for both titrations multiplied by 0.07611 indicates the weight in grams of Citral in the sample taken for assay.

Solubility

Benzyl Benzoate: All proportions.

Diethyl Phthalate: All proportions.

Fixed Oils: All proportions.

Glycerine: Insoluble.

Mineral Oil: All proportions.

Propylene Glycol: All proportions.

Stability

Alkali: Not stable.

Acids: Not stable.

Containers

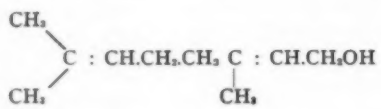
Citral should preferably be shipped in glass. Good grade tins may be used if long storage is not contemplated.

Storage

Store preferably in tight full containers in a cool place protected from light.

Specifications and Standards for Geraniol

$C_{10}H_{17}OH$ Mol. Wt. 154.24



Preparation

Obtained from such essential oils as Citronella Java and Palmarosa Oil, and other essential oils.

Physical and Chemical Constants

Color and Appearance—Colorless liquid, having a rose-like odor.

Specific Gravity 15° C.: .870 to .890.

Optical Rotation: —2° to + 2°.

Refractive Index @ 20° C.: 1.4710 to 1.4780.

Solubility in Alcohol—Soluble in two and more volumes of 70% alcohol.

Total Alcohol Content—Not less than 88% calculated as $C_{10}H_{17}OH$.

Method: Proceed as directed for the determination of total acohols (See Determinations G.T. B), using approximately 1.2 gms of acetylized oil, accurately weighed for the saponification. Calculate the percentage of total alcohols as geraniol, using the following formula:

$$\text{Total Alcohols} = \frac{A \times 7.712}{B - (A \times .021)}$$

"A" is the result obtained by subtracting the number of cc of half normal hydrochloric acid required in the titration from the number of cc of half normal alcoholic potassium hydroxide originally taken.

"B" is the weight of acetylized oil.

Ester Content—Not more than 1% calculated as Geranyl Acetate.

Method: Proceed as directed for the de-

termination of esters (See Determinations G.T. A), using approximately 5 gms. of sample accurately weighed. The number of cc of half normal alcoholic potassium hydroxide consumed in the saponification, multiplied by .0981 indicates the gms. of ester calculated as geranyl acetate.

Aldehyde Content—Not more than 1% calculated as Citronellal.

Method: Proceed as directed in the Hydroxylamine Method for aldehydes (See Determinations G.T. D), using approximately 5 gms. of sample accurately weighed and allow the test to stand for 15 minutes at room temperature. The difference in the number of cc required for the titration of the blank and the sample multiplied by .07712 indicates the number of grams of aldehyde calculated as citronellal.

Descriptive Characteristics

Solubility:

Diethyl Phthalate: Soluble in all proportions.

Benzyl Benzoate: Soluble in all proportions.

Mineral Oil: Soluble in all proportions.

Fixed Oils: Soluble in all proportions.

Glycerine: Insoluble.

Propylene Glycol: Soluble in all proportions.

Stability:

Acids: Not stable.

Alkali: Fairly stable at moderate temperatures.

Containers

Should be shipped preferably in glass or tin-lined containers. Good quality galvanized containers are suitable provided long storage is not contemplated.

Storage

Store in tight, full containers in a cool place, protected from light.

Specifications and Standards for Geranyl Acetate

$C_{10}.H_{17}.O_2.C_2.H_3$ Mol. Wt. 196.28

Preparation

Obtained from Geraniol by acetylation.

Physical and Chemical Constants

Color and Appearance—Colorless liquid having a pleasant flowery odor.

Specific Gravity @ 15° C.: 0.907 to 0.918.

Optical Rotation: —2° to +2°.

Refractive Index @ 20° C.: 1.4580 to 1.4640.

Ester Content: Not less than 90%.

Proceed as directed for the determination of esters (See G.T. A), using approximately 1.0 gram of sample accurately weighed. The number of cc of half normal potassium hydroxide solution consumed in the saponification, multiplied by 0.0981, indicates the number of grams of ester calculated as Geranyl Acetate in the sample taken for assay.

Solubility in Alcohol—Soluble in 8 volumes of 70% alcohol.

Descriptive Characteristics

Solubility:

Benzyl Benzoate: Soluble in all proportions.

Diethyl Phthalate: Soluble in all proportions.

Fixed Oils: Soluble in all proportions.

Glycerine: Insoluble.

Mineral Oil: Soluble in all proportions.

Propylene Glycol: Not completely soluble in all proportions.

Stability:

Acids: Fairly stable to weak organic acids.

Alkali: Unstable to alkalies, due to saponification of the ester with subsequent liberation of free geraniol.

Containers

Geranyl Acetate should be shipped in glass, aluminum, tin-lined or good quality galvanized iron containers.

Storage

Store preferably in tight, full containers in a cool place, protected from light.

Specifications and Standards for Citronellol

Preparation

Reduction of citronellal or geraniol or obtained from essential oils such as geranium and citronella, etc.

Physical and Chemical Constants

Color and Appearance—Colorless liquid having a roselike odor.

Specific Gravity 15° C.: .849 to .868.

Optical Rotation: —3° to +3°.

Refractive Index @ 20° C.: 1.4460 to 1.4600.

Solubility in Alcohol—Soluble in two and more volumes of 70% alcohol.

Total Alcohol Content—Not less than 90% calculated as $C_{10}H_{19}OH$.

Method: Proceed as directed for the determination of total alcohols (See Determinations G.T. B), using approximately 1.2 gms. of the acetylized oil accurately weighed for the saponification. Calculate the percentage of total alcohols as citronellol, using the following formula:

$$\text{Total Alcohols} = \frac{A \times 7.813}{B - (A \times .021)}$$

"A" is the result obtained by subtracting the number of cc of half normal hydrochloric acid required in the titration from the number of cc of half normal alcoholic potassium hydroxide originally taken.

"B" is the weight of acetylized oil.

Ester Content—Not more than 1% calculated as citronellyl acetate.

Method: Proceed as directed for the determination of esters (See Determinations G.T. A), using approximately 5 gms. of sample accurately weighed. The number of cc of half normal alcoholic potassium hydroxide consumed in the saponification, multiplied by .0991, indicates the gms. of ester calculated as citronellyl acetate.

Aldehyde Content—Not more than 1% calculated at Citronellal.

Method: Proceed as directed in the Hydroxylamine Method for aldehydes (See Determinations G.T. D), using approximately 5 gms. of sample accurately weighed and allow the test to stand for 15 minutes at room temperature. The difference in the number of cc required for the titration of the blank and the sample multiplied by .07712 indicates the number of gms. of aldehyde calculated as citronellal.

Descriptive Characteristics

Solubility:

Diethyl Phthalate: Soluble in all proportions.

Benzyl Benzoate: Soluble in all proportions.

Mineral Oil: Soluble in all proportions.

Fixed Oils: Soluble in all proportions.

Glycerine: Insoluble.

Propylene Glycol: Soluble in all proportions.

Stability:

Acids: Fairly stable to dilute acids.

Alkali: Fairly stable.

Containers

Should be shipped preferably in glass or tin-lined containers. Good quality galvanized or black iron containers are suitable provided long storage is not contemplated.

Storage

Store in tight, full containers in a cool place, protected from light.

Specifications and Standards for SAFROL

$C_{10}H_{10}O$ M.W. = 162.13

Preparation

By isolation from brown Camphor Oil, Oil Ocotea Cymbarum and Oil Sassafras.

Physical and Chemical Constants

Specific Gravity @ 15° C: 1.100 to 1.107.

Optical Rotation @ 15° C: —0°30′ to + 0°30′.

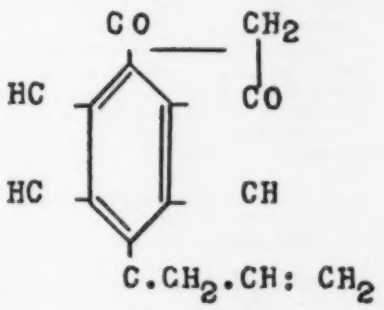
Refractive Index @ 20° C: 1.5363 to 1.5385.

Congealing Point: 10° C. to 11.2° C.

Solubility 90% Alcohol: 3 volumes.

Color: Water white to slight yellow.

Odor: Characteristic of Sassafras.



Descriptive Characteristics

Solubility:

Benzyl Benzoate: All proportions.

Fixed Oils: All proportions.

Glycerine: Insoluble.

Mineral Oil: Soluble.

Propylene Glycol: Slightly soluble.

Water: Insoluble.

Stability:

Alkali: In the presence of strong alkali a pink or red discoloration changing to yellow or brown on standing is often observed.

Acids: In the presence of some organic and inorganic acids a change is noted, the degree of change depending upon the conditions.

Oxidation: Relatively resistant to oxidation at ordinary temperatures and conditions.

Containers

Safrol should be shipped in glass, aluminum or tin-lined containers. Good quality galvanized containers are suitable when long periods of storage are not contemplated.

Storage

Store preferably in tight, full containers in a cool place protected from light.

Specifications and Standards for NITRO MUSKS

Preparation

Nitration of the corresponding benzene derivative.

Physical and Chemical Constants

Musk Xylol.

Color and Appearance: Yellow crystalline powder or needle-like crystals.

Odor: Suggestive of musk.

Melting Range: 112.5 to 114.5° and 104 to 106° C.

Two melting points have been observed for Musk Xylol: a low melting or "labile" modification melting at 104-106°, and the higher melting or "stable" form melting at 112.5° to 114.5°. When the low-melting form is encountered, permit the melt to resolidify and redetermine the melting point. This procedure permits the necessary transition to the higher melting form. A persistent low melting point, after solidification, generally indicates a contaminated or unrefined product.

Musk Ambrette: Color and appearance: Yellow granular crystals.

Odor: Powerful musk-like odor with suggestion of Ambrette seeds.

Melting Range: 84° to 86° C.

Musk Ketone: Color and appearance: Pale yellow platelets or fine crystalline powder.

Odor: Musklike odor considered as more closely resembling natural musk than other nitrated products.

Melting Range: 134.5 to 136.5° C.

Descriptive Characteristics

Stability:

The nitro musks are relatively stable to oxidation, dilute acids, and alkalis, although some discoloration may be noted with Musk Ambrette in the presence of alkaline materials. Exposure to sunlight generally effects a discoloration of the nitro-musks.

Containers

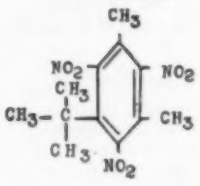
Small quantities in paper-lined tin cans. Large quantities are usually packed in wooden barrels or fiberboard and pressboard containers.

Storage

The nitro musks are best preserved by storage in a cool place protected from light.

Solubility:	*Musk Xylol*	*Musk Ambrette*	*Musk Ketone*
Alcohol 95% 25° approx.	Sl. Sol. (0.7 gms. per 100 cc)	Sl. Sol. (2.6 gms. per 100 cc)	Sl. Sol. (1.4 gms. per 100 cc)
Benzyl Benzoate 25° approx.	Sol. 28 gms. per 100 cc)	Sol. (56 gms. per 100 cc)	Sol. (28 gms. per 100 cc)
Diethyl Phthalate 25° approx.	Sol. (17 gms. per 100 cc)	Sol. (44 gms. per 100 cc)	Sol. (16 gms. per 100 cc)
Fixed Oils	Sol.	Sol.	Sol.
Volatile Oils	Sol.	Sol.	Sol.
Glycerine	Insol.	Insol.	Insol.
Propylene Glycol	Insol.	Insol.	Sl. Sol.
Mineral Oil	Sol.	Sl. Sol.	Sl. Sol.
Water	Insol.	Insol.	Insol.

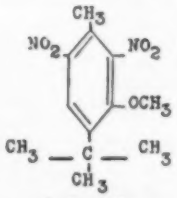
Musk Xylol



$C_{12}H_{15}O_6N_3$
M.W. = 297.45

2, 4, 6-Trinitro 1, 3-Dimethyl 5-tertiary Butyl Benzene

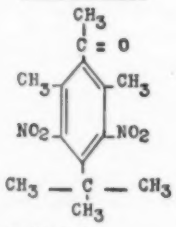
Musk Ambrette



$C_{12}H_{16}O_5N_2$
M.W. = 268.41

2, 6-Dinitro 3-Methoxy 4-tertiary Butyl Toluene

Musk Ketone



$C_{14}H_{18}O_5N_2$
M.W. = 294.44

3, 5-Dinitro 2, 6-Dimethyl 4-tertiary Butyl Acetophenone

Specifications and Standards for OIL PALMAROSA

Other General Names

Oil Geranium, East Indian.
Oil Geranium, Turkish.

Botanical Nomenclature

Cymbopogon Martini Stapf. var. *Motia.*

Preparation

Obtained by steam distillation of the partially dried grass.

Physical and Chemical Properties

Color and Appearance: A light yellow to yellow oil. As imported, it is often hazy and brownish because of the crude methods of production.

Specific Gravity at 15° C.: 0.885 to 0.897.

Optical Rotation −2° to +3°.

Refractive Index at 20° C.: 1.4730 to 1.4775.

Ester Contents: 4% to 13% (Java oils: as high as 18%).

Proceed as directed for the Determination of Esters (see G.T.A.), using approximately 5.0 grams of the oil, accurately weighed. The number of cc of half-normal alcoholic potassium hydroxide consumed in the saponification, multiplied by 0.0981, indicates the number of grams of esters, calculated as Geranyl Acetate, in the oil taken for assay.

Total Alcohol Content: 88% to 94%.

Proceed as directed for the Determination of Total Alcohols (see G.T. A.), using approximately 1 gram of the acetylized oil, accurately weighed, for the subsequent saponification. Calculate the percentage of Total Alcohols, calculated as Geraniol, by the following formula:

$$\text{Per cent of Total Geraniol} = \frac{A \times 7.712}{B - (A \times 0.021)} \times \left\{ 1 - (E \times 0.0021) \right\}$$

A is the result obtained by subtracting the number of cc of half normal hydrochloric acid required in the titration from the number of cc of half normal alcoholic potassium hydroxide originally taken.

B is the weight of acetylized oil taken.

E is the precentage of ester.

Solubility in Alcohol: Soluble in 2 volumes of 70% alcohol.

Descriptive Characteristics

Solubility:

Benzyl Benzoate: Soluble in all proportions.

Fixed Oils: Soluble in all proportions.

Glycerin: Relatively insoluble.

Mineral Oil: Soluble, usually with opalescence or turbidity.

Propylene Glycol: Soluble in all proportions.

Stability:

Acids: Unstable in the presence of strong acids.

Alkali: Relatively stable in the presence of alkalies at moderate temperatures.

Containers

Should be shipped preferably in glass or tin-lined containers. Good quality galvanized containers are suitable, provided long storage is not contemplated.

Storage

Store in tight, full containers in a cool place, protected from light.

Specifications and Standards for BENZYL ACETATE

$C_6H_5CH_2O_2C_2H_3$ Mol. Wt. 150.17

Preparation

Prepared by the interaction of Benzyl Chloride and Sodium Acetate in the presence of glacial acetic acid and by acetylation of Benzyl Alcohol.

Physical and Chemical Constants

Color and Appearance: Colorless liquid having a characteristic flowery odor.

Specific Gravity @ 15° C.: 1.059 to 1.062.

Refractive Index @ 20° C.: 1.5015 to 1.5035.

Acid Value: Maximum 1.0

Proceed as directed for the determination of Acid Value. (See Determinations G.T. E.)

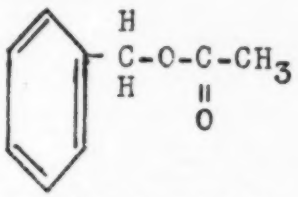
Ester Content: 98% Minimum.

Assay: Proceed as directed for determination of Esters. (See Determinations G.T. A) using approximately 0.9 gm sample accurately weighed. The number of cc. of half-normal Potassium Hydroxide solution consumed in the saponification multiplied by 0.0751 indicates the number of grams of ester calculated as Benzyl Acetate in the sample taken for assay. (This result should be corrected for Acid Value. See Determination G.T. E.)

Chlorine: Negative.

Proceed as directed for the determination of Chlorinated Compounds. (See Determinations G.T. G.)

Solubility in Alcohol: Soluble in 5 volumes of 60% Alcohol.



Descriptive Characteristics

Stability:

Alkali: Unstable to alkali due to saponification of the ester with subsequent liberation of free Benzyl Alcohol.

Acids: Fairly stable to weak organic acids.

Solubility:

Benzyl Benzoate: Soluble in all proportions.

Diethyl Phthalate: Soluble in all proportions.

Fixed Oils: Soluble in all proportions.

Alcohol: Soluble in all proportions.

Mineral Oil: Soluble.

Propylene Glycol: Soluble.

Glycerine: Insoluble.

Water: Insoluble.

Containers

Should be shipped in glass, aluminum or tin-lined containers. Good quality galvanized containers are suitable when long storage is not contemplated.

Storage

Store preferably in tight, full containers in a cool place protected from light.

Specifications and Standards for LINALYL ACETATE

(90% from Bois de Rose Brazilian)

$C_{10}H_{17}O_2C_2H_3$ Mol. Wt. 196.28

Preparation

Obtained from Bois de Rose Brazilian by acetylation and subsequent fractionation.

Physical and Chemical Constants

Color and Appearance—Colorless to slightly yellow having a pleasant flowery odor.

Specific Gravity 15° C.: 0.908 to 0.920.

Optical Rotation: —1 to +1.

Refractive Index 20° C.: 1.450 to 1.458.

Acid Value: Not more than 2.

Ester Content: Not less than 90%.

Assay

Proceed as directed for determination of esters (See Determinations G.T. A) using approximately 1.0 gm. sample accurately weighed. The number of cc of half-normal Potassium Hydroxide Solution consumed in the saponification multiplied by 0.0981 indicates the number of grams of ester calculated as Linalyl Acetate in the sample taken for assay. This result should be corrected for Acid Value (See Determination G.T. E.)

Descriptive Characteristics

Solubility in Alcohol: Soluble in 5 volumes of 70% Alcohol.

Solubility:

Diethyl Phthalate: Soluble in all proportions.

Benzyl Benzoate: Soluble in all proportions.

Mineral Oil: Soluble in all proportions.

Fixed Oils: Soluble in all proportions.

Alcohol: Soluble in all proportions.

Propylene Glycol: Slightly soluble; about 5%.

Water: Insoluble.

Glycerine: Insoluble.

Stability:

Acids: Not very stable; strong acids transform Linalyl Acetate into terpenic products.

Alkali: Unstable to alkalis due to saponification of the ester with subsequent liberation of free Linalool.

Containers

Linalyl Acetate should be shipped in glass, aluminum, tin-lined or good quality galvanized iron containers.

Storage

Store preferably in tight, full containers in a cool place protected from light.

Specifications and Standards for OIL CEDARWOOD and CEDARWOOD TEXAS

Botannical Nomenclature

Juniperus virginiana, L.: Oil of Red Cedarwood.

Oil Cedar.

Oil Cedarwood American.

Juniperus Mexicana, Scheide, and closely related species: Oil Cedarwood Texas.

Preparation

By steam distillation of the chopped and ground wood.

Physical and Chemical Constants

(See Table Below)

Descriptive Characteristics

Stability:

Alkali: Fairly stable to alkali.

Acids: Fairly stable to weak acids.

Solubility:

Benzyl Benzoate: Soluble in all proportions.

Fixed Oils: Soluble in all proportions in most fixed oils.

Glycerine: Relatively insoluble.

Mineral Oil: Soluble in all proportions.

Propylene Glycol: Relatively insoluble.

Containers

Should be shipped in glass, tin-lined, or aluminum containers. Good quality galvanized containers are suitable when long storage is not contemplated.

Storage

Store preferably in tight, full containers in a cool place protected from light.

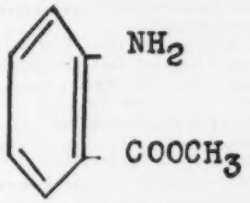
	Juniperus Virginiana	*Juniperus Mexicana*
Color and Appearance:	Colorless to light yellow slight viscous liquid	Colorless to yellow slightly viscous liquid
Specific Gravity @ 15° C.:	0.945 to 0.9060	0.950 to 0.960
Optical Rotation:	—27° to —45°	—35° to —50°
Refractive Index @ 20° C.:	1.5020 to 1.5070	1.5040 to 1.5070
Solubility in Alcohol:	Soluble in 5 volumes of 95% alcohol	Soluble in all proportions of 95% alcohol

Specifications and Standards for METHYL ANTHRANILATE

$C_8H_9O_2N$ Mol. Wt. 151.08

Preparation

Esterfication of anthranilic acid.



Physical and Chemical Properties

Color and Appearance: Colorless to pale yellow liquid with bluish fluorescence, having an odor of the grape type.

Specific Gravity @ 15° C.: 1.167 to 1.175.

Refractive Index @ 20° C.: 1.5820 to 1.5840.

Congealing Point: Min. 23.8° C.

Proceed as directed for the determina-

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Soap and Detergent Definitions

American Society for Testing Materials Committee D-12 on Soaps and Other Detergents.

Standard Definitions of

TERMS RELATING TO SOAPS AND OTHER DETERGENTS

A.S.T.M. Designation: D 459-45T

Issued, 1937; Revised 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947; Made standard 1948.

Alkaline Detergent — A water-soluble alkali or alkaline salt having detergent properties, but containing no soap.

Anhydrous Soap—Soap, free from water and all other concomitants.

Note—The word "anhydrous" usually means free from water, but in the soap industry it has the additional meaning stated.

Buffer Action—The resistance of a solution to change in pH.

Builder—A material added to soap or synthetic detergent to improve its effectiveness under the conditions of use.

Cleaning—A process of removing undesirable matter.

Detergency—Effectiveness of cleaning.

Detergent—A composition which cleans.

Detergent, Anionic—A detergent which produces negatively charged colloidal ions in solution.

Detergent, Cationic—A detergent which produces positively charged colloidal ions in solution.

Detergent, Non-Ionic — A detergent which produces electrically neutral colloidal particles in solution.

Dispersing Agent — A material which increases the stability of a suspension of particles in a liquid medium.

Dry Cleaning—Cleaning fabrics in a substantially non-aqueous liquid medium.

Dry-Cleaning Detergent—(Dry-Cleaning Aid)—A detergent which when added to a dry-cleaning solvent increases cleaning effectiveness.

Emulsifying Agent—A material which increases the stability of a dispersion of one liquid in another.

Foaming Agent—A material which increases the stability of a suspension of gas bubbles in a liquid form.

Filler—A material added to a soap or other detergent which does not improve its attractiveness or its effectiveness under the conditions of use.

Penetrating Agent—A material which increases the penetration of a liquid medium into a porous material.

Scouring—A wet process of cleaning by chemical or mechanical means, or both.

Soap—The product formed by the saponification or neutralization of fats, oils, waxes, rosins, or their acids with organic or inorganic bases.

Note—Various descriptive adjectives are applied to the name soap to indicate certain characteristics as follows:

(a) Method of manufacture, for example, boiled soap, cold-process soap.

(b) Physical form, for example, bar soap, chip soap, liquid soap, powdered soap.

(c) A special property, for example, floating soap, low-titer soap, milled soap, soft soap.

(d) A particular ingredient, for example, grit soap, tar soap.

(e) A particular application, for example, automobile soap, dry-cleaning soap, salt-water soap.

Soap, Blended—(for example Blended Palm Oil Soap)—A soap in which more than half but not all the fatty acid stock is from the source stated.

Soap, Built—A mixture of soap and one or more builders containing not less than 50 per cent of anhydrous soap.

Soap Powder—A mixture in powdered form of soap and one or more alkaline detergents, but principally composed of the latter.

Soap, Straight—(for example Straight Palm Oil Soap)—A soap in which the fatty acid stock is solely from the source stated.

Soil—Undesirable matter to be removed by cleaning.

Soil Redeposition — Deposition of removed soil on a surface during a cleaning process.

Surface Active Agent — A material which when added to a liquid medium modifies the properties of the medium at a surface or interface.

Note—Surface Active Agent is the general term which includes soluble detergents in liquid medium, dispersing agents, emulsifying agents, foaming agents, penetrating agents and wetting agents.

Synthetic Detergent—A detergent produced by chemical synthesis and comprising an organic composition other than soap.

Titer (pron. te'ter) (of fatty acids)—The maximum temperature achieved during the solidification of fatty acids, which have been cooled below the melting point by a standardized procedure.

Washing—Cleaning in an aqueous medium.

Water-Break — Failure of water to maintain a continuous film on metallic, vitreous or similar surfaces on withdrawing from clean water.

Wet Cleaning—A term used in the dry cleaning industry to denote cleaning in an aqueous medium.

Wetting Agent — A material which increases the spreading of a liquid medium on a surface.

Whiteness-Retention — Comparative whiteness of original and cleaned fabric.

SOAP SALES STATISTICS

(*From Page* 163)

pounds, worth $144,058,421. The second quarter of this year was the third largest from the dollar and volume standpoints, while the comparable period a year ago was the smallest for the year. In the fourth quarter, the smallest of 1948, the volume of soap shipments was put at 546,277,974 pounds, whose worth was $118,286,074. The fourth 1947 quarter totals were 797,078,000 pounds and $189,752,000.

The 1948 totals on deliveries of liquid soaps and their worth are given as follows: first quarter, 755,606 gallons at $992,029; second quarter, 939,394 gallons at $1,260,971; third quarter, 680,000 gallons, at $1,242,000; and fourth quarter, 918,148 gallons at $643,044.

LABEL PROBLEMS

(*From Page* 181)

the product of one of the largest manufacturers of insecticides. Apparently, no effort or expense has been spared to make certain that this material will "kill the bugs dead, and keep them dead," as the rotenone advocates used to say before the days of DDT, and are now saying again.

These labels are offered here as something of a practical guide and for comparison purposes by manufacturers. They may contain errors. Although they might be used as a starting point, there is still no substitute for submitting any new label to an expert for his perusal before sending it to Washington or elsewhere. And, the fact must be remembered that these labels may or *may not* meet all state requirements, so that an individual check under each state law is altogether necessary.

No consideration has been given here, of course, to municipal and other local label requirements, particularly fire law requirements of some large cities for inflammable products, or local poison regulations where such may be in force. These naturally are matters for individual spot attention by each marketer, but nevertheless should not be overlooked.

PERFUME SPECIFICATIONS

(*From Page* 223)

tion of Congealing Temperature. (See U.S.P. XIII, page 629.)

Solubility in Alcohol: Soluble in 5 volumes and more of 60% alcohol.

Descriptive Characteristics

Solubility:

Benzyl Benzoate: All proportions.
Diethyl Phthalate: All proportions.
Fixed Oils: All proportions.
Glycerine: Insoluble.
Mineral Oil: Partly soluble.
Propylene Glycol: All proportions.
Volatile Oils: Partly or all proportions.

Stability:

Acids—Fairly stable to organic acids.
Alkali—Stable in weak alkaline media, saponified by caustic alkali.

Containers

Should be shipped in glass, aluminum or in tin-lined containers.

Storage

Store preferably in tight, full containers in a cool place, protected from light. Prolonged storage or exposure to light may cause discoloration.

FEDERAL SPECIFICATIONS

(*From Page* 208)

Color—shall be as specified by the purchaser. *Odor*—shall be pleasant and shall be as specified by the purchaser.

Lathering quality (*Class A only*)—shall be satisfactory. Shall conform to the test described above.

Type I. Shaving soap, Classes A, B, and C—shall conform to the detail requirements shown in the accompanying table.

The percentage of volatile matter shall be computed, and reported on the soap as received. The percentages of all other constituents shall be calculated and reported on an assumed volatile matter content of 10 per cent for Classes A and B and of 2 per cent for Class C.

Technical Trisodium Phosphate (O-T-671a)

Technical trisodium phosphate shall be a white, uniform product and may be either granular, flake, or crystalline.

It shall contain not less than 98 per cent of trisodium phosphate calculated as $Na_3PO_4.12H_2O$, from the total phosphoric anhydride (P_2O_5). It shall conform to the following detail requirements:

	Minimum Per Cent	*Maximum Per Cent*
Trisodium phosphate, calculated as $Na_3PO_4.12H_2O$, from total P_2O_5	98	—
Total alkalinity to methyl orange, calculated as Na_2O	16	19
Phosphoric anhydride (P_2O_5)	18.3	—
Matter insoluble in water	—	0.1

SCRUB SOAP TESTING

(*From Page* 168)

per cent solution of calcium chloride in a 250-ml. stoppered Erlenmeyer flask, a 1:20 solution of the soap under test, shaking after each addition, until a foam lasting 15 minutes is obtained. The number of ml. of soap solution used up is the "spendability" index. The lower the index, the better is the "spendability" and the longer the cleanser lasts.

The last test for cleansers to be considered relates to wetting power. This test indicates the ability of a cleanser to wet the surface to be cleaned, to penetrate cracks, etc. The test adopted is the very simplest one used extensively, although not officially, in the textile industry. It is similar to, though simpler than, the one adopted by a Government agency (11). It consist of dropping a 1-inch square of canvas from a height of about 10 mm. onto 150 ml. of a 5 per cent solution of the material under test (foam removed from surface) in a 200-ml. beaker and measuring the time it takes to start to sink.

The four tests discussed have proved very valuable from a special angle, namely that of assessing a value to any product in terms of cost. In the disinfectant field, it is customary to refer to disinfectants on a cost per unit phenol coefficient basis. This concept has been extended to a cost per unit foam-

ing power, wetting power, etc. basis. This interpretation has led to the adoption of materials which give as high a value for a given cost as possible. However, in the over-all evaluation of a product, none of these factors can be taken individually. They must be considered in relation to the other tests with the emphasis placed upon each manufucturers' selection of a property most representative of his needs.

The tests outlined above are only a few of those which have been adopted to evaluate products from an end-use standpoint. There are many other tests for cleansers as well as for other types of products. It is believed that the above are the most illustrative, and that truly valuable benefits can be derived from their use. It is felt that in order to improve the situation in the sanitary chemicals industry, the cooperation and ideas of others must be sought.

Bibliography

(1) Navy Specification 51P5f.
(2) Navy Specification 51C20c.
(3) L. S. Stuart, Soap & Sanitary Chemicals, *23*, No. 9, 134 (1947).
(4) H. Fleisher. Paper presented before the meeting NAIDM, Dec. 1947; W. L. Mallmann, Paper presented before the meeting NAIDM, Dec. 1947.
(5) A. S. DuBois, Chem. Ind. *61*. 4 (1947); H. Bernstein, Chem. Ind., *61*, 4 (1947).
(6) U. S. Bureau of Standards, Techn. Rep. 1101, Sept., 1947.
(7) F W. Gilcreas & J. E. O'Brien, J. Am. Pub. Health, *31*, 143 (1941).
(8) Tentative definition of terms relating to soaps and other detergents. A.S.T.M. D-459-45T, Sept., 1945.
(9) J Ross and G. D. Miles, Oil & Soap, *18*, 99 (1941).
(10) Snell & Biffen, Commercial Methods of Anaylsis, P. 234, McGraw-Hill, N. Y. 1944.

CLEANER IDENTIFICATION

(*From Page* 171)

times the amount of potassium soap and are comparatively cheaper. There are others which have no compatibility whatsoever with alkali soaps, metallic soaps, mineral oil and vegetable oils and can be regarded only as wetting agents. This simple airotitrator method serves to differentiate between these products quickly and adequately.

SELLING DISINFECTANTS

(*From Page* 190)

peared on the market and evidence points toward large volume and widespread sale of the compound in such form because of ease of use, saving in freight and elimination of the breakage and handling connected with glass jugs or carboys. Approval of quaternary compounds for sanitizing of eating utensils and glassware in public eating places has been obtained in most states and in a great number of large cities. In this respect the quaternaries are replacing to a considerable degree chlorine compounds which have a number of disadvantages when used for disinfection of eating utensils (objectionable odor, unstability, dulling effect on glassware, corrosiveness in concentrated form).

The quaternaries are available in liquid form, having phenol coefficients ranging from 5 to 50 in commercial use. In concentrated powder form the phenol coefficient figure ranges from 50 on up and in tablet form also from 50 on up.

The accompanying chart will give those engaged in the sale of disinfectants and sanitizing agents a condensed but comprehensive review of commercial disinfectants, their general applications, and uses.

REGISTRATION PROCEDURE

(*From Page* 183)

of caution statements. The law requires caution statements for many compounds and formulations which have been merchandised for many years without such labeling.

Data upon the toxicity of many economic poisons are not generally available to economic poison manufacturers and a considerable amount of confusion has resulted. In general, the manufacturer has decided to "play safe" and use the labeling specified for highly toxic compounds, whenever there is a reasonable possibility of a formulation being in that category. Since the "highly toxic" definition covers little known skin absorption and inhalation hazards, it is expected that some uncertainties will remain for quite some time. In the interim, however, products will be judged on the basis of the best information at hand and warnings will continue to be suggested if they appear to be needed.

One other point which has required careful reviewing is that many manufacturers have failed to print the word "Poison" in red. This is a stipulation in the Act and applies to all "highly toxic" products so that failure to conform has caused delay in registration.

In a few cases long term trouble-free use has convinced manufacturers that certain products are safe, harmless, or non-injurious. Rarely do the facts confirm the logical use of such claims and requests for their deletion constitute a sizeable amount of work. The Pharmacology unit is concerned with assuring the purchaser that he will be given "adequate" instructions for using an economic poison with a minimum of danger to himself. With many new and lethal materials being offered for public use, this function assumes notable importance.

From the viewpoint of the Rodenticide unit, the Section has been concerned with efficiency and proper directions for use, as well as with precautionary statements. In this category, the most common difficulty has been found to be inadequate instructions for handling the mixing of the bait and its distribution. Manufacturers often are inexperienced in the use of their products and, as a natural consequence, many of them fail to give directions which will insure the highest degree of efficiency from them. Correction of this fault constitutes the principal function of the Rodenticide unit.

In closing, let me say that we are determined to carry out the provisions of the Act as passed by Congress. In doing so, we want to be reasonable and practical. We want to cooperate with State enforcement agencies and manufacturers. It is only through cooperation that uniformity can be achieved.

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